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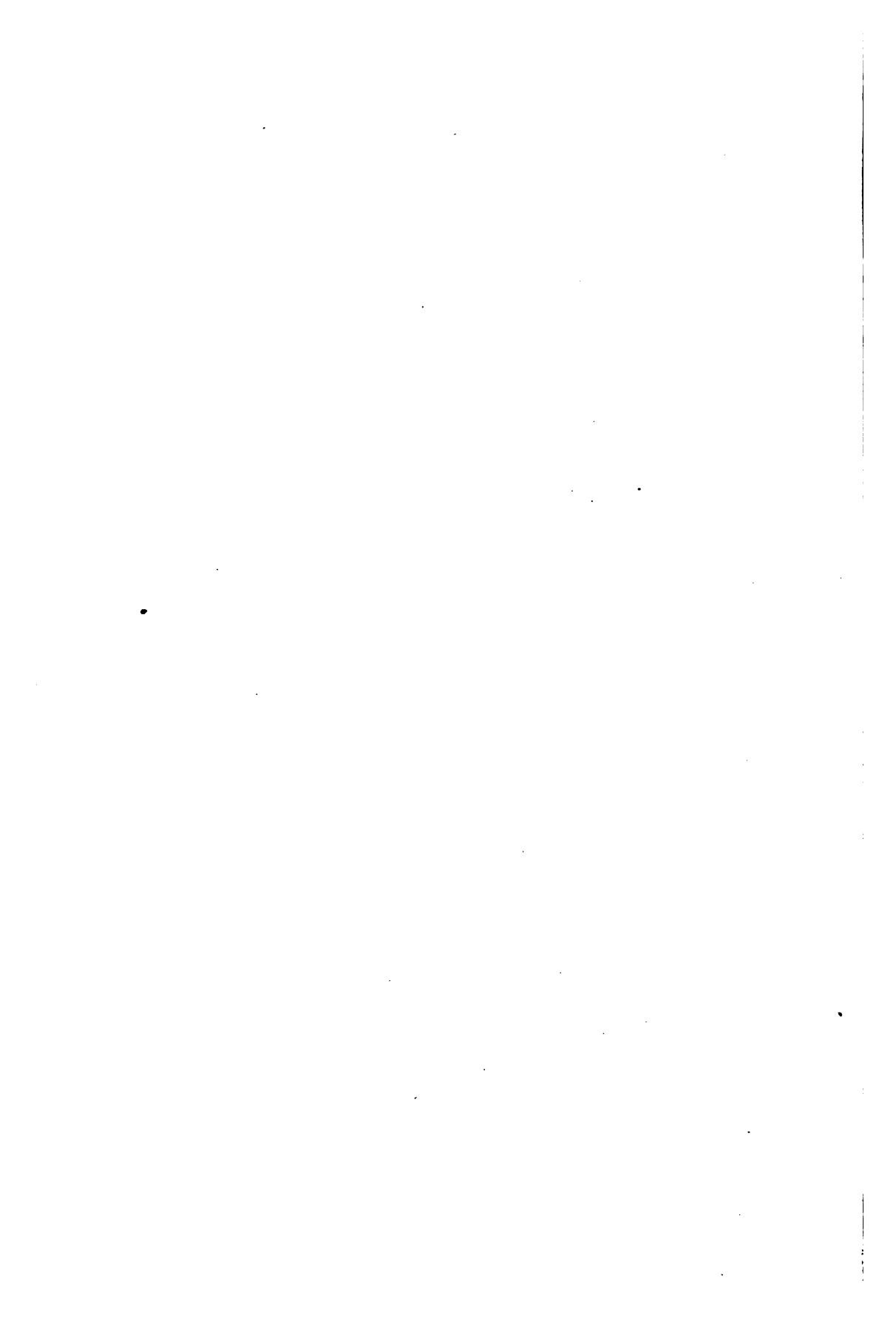
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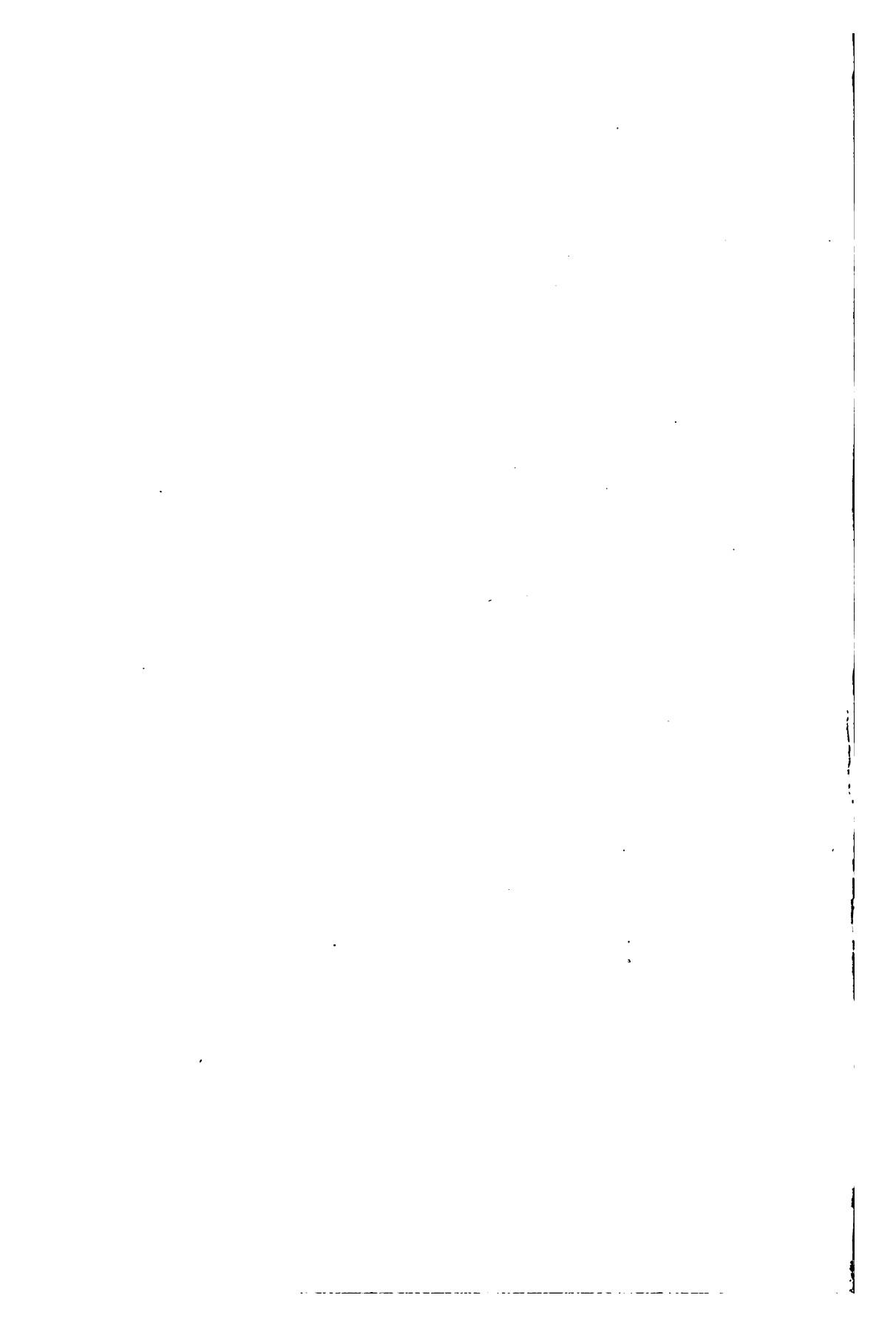












# INDEX OF MINING ENGINEERING LITERATURE

COMPRISING AN  
INDEX OF MINING, METALLURGICAL, CIVIL, MECHANICAL,  
ELECTRICAL AND CHEMICAL ENGINEERING  
SUBJECTS AS RELATED TO MINING  
ENGINEERING

ALSO  
COSTS OF MINING AND METALLURGICAL  
OPERATIONS, ETC.

BY  
**WALTER R. CRANE, Ph.D.**

DEAN OF THE SCHOOL OF MINES, AND PROFESSOR OF MINING, THE PENNSYLVANIA  
STATE COLLEGE, AUTHOR OF "A TREATISE ON GOLD AND SILVER,"  
"ORE MINING METHODS," AND NUMEROUS ARTICLES ON MINING

*SECOND VOLUME*  
FIRST THOUSAND

NEW YORK  
JOHN WILEY & SONS  
LONDON: CHAPMAN & HALL, LIMITED  
1912

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**WALTER R. CRANE**

**Stanhope Press**  
**F. H. GILSON COMPANY**  
**BOSTON, U.S.A.**

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## PREFACE TO SECOND VOLUME OF INDEX

In order that an index may be valuable it must be added to from time to time, including references to the new material in the current technical literature and annual proceedings of societies. To this end the Index of Mining Engineering Literature has been enlarged by the preparation of an additional volume covering the list of publications indexed for the first volume, besides a number of other publications. Still other publications would have been incorporated in this volume of the Index had they been available.

The two special features that distinguish this Index from others are cross-references and multiple references. By the former is meant the reference to other subjects under which information can be obtained relative to the special subject in question; and by the latter is meant the breaking up of a paper or article into a number of references which are distributed under appropriate headings.

The special feature of the present volume of the Index is the list of references on cost which are distributed over and cover practically every phase of mining and metallurgical practice. These references to costs are particularly interesting and valuable to the practicing engineer.

As was stated in the former volume of the Index, the work has been the result of the unaided labor of the author, and all errors are, therefore, due to his oversight.

WALTER R. CRANE.

SCHOOL OF MINES,  
THE PENNSYLVANIA STATE COLLEGE,  
June 1, 1912.



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## PUBLICATIONS INDEXED AND ABBREVIATIONS

### JOURNALS, TRANSACTIONS AND PROCEEDINGS OF SOCIETIES

- Am. Jour. Min.—American Journal of Mining.  
Coll. Engr.—Colliery Engineer.  
Coll. Engr. & Met. Miner.—Colliery Engineer and Metal Miner.  
Engineering, London.  
E. & M. J.—Engineering and Mining Journal.  
J. C. M. I.—Journal of the Canadian Mining Institute.  
J. C. & M. Soc. S. A.—Journal of the Chemical and Metallurgical Society of South Africa.  
J. W. Soc. E.—Journal of the Western Society of Engineers.  
J. M. Soc. N. S.—Journal of the Mining Society of Nova Scotia.  
Min. Mag. (old series).—Mining Magazine.  
Min. Mag. (new series).—Mining Magazine.  
Min. Mag., London.—Mining Magazine, London.  
M. & M.—Mines and Minerals.  
Min. & Sci. Press.—Mining and Scientific Press.  
P. C. M. & M. Soc. S. A.—Proceedings of the Chemical, Mining and Metallurgical Society of South Africa.  
P. E. Soc. W. Pa.—Proceedings of the Engineering Society of Western Pennsylvania.  
P. Soc. P. E. E.—Proceedings of the Society for the Promotion of Engineering Education.  
Sch. Mines Quart.—School of Mines Quarterly.  
T. A. I. M. E.—Transactions of the American Institute of Mining Engineers.  
T. Au. I. M. E.—Transactions of the Australian Institute of Mining Engineers.  
T. I. M. E.—Transactions of the Institution of Mining Engineers.  
T. I. M. & M.—Transactions of the Institute of Mining and Metallurgy.  
T. L. S. M. I.—Transactions of the Lake Superior Mining Institute.  
T. N. S. I. M. & M. E.—Transactions of the North Staffordshire Institute of Mining and Mechanical Engineers.  
T. F. C. M. I.—Transactions of the Federated Canadian Mining Institute.  
U. S. G. S. Publications.—United States Geological Survey Publications, except Water Supply Papers.

### PUBLICATIONS INCOMPLETELY INDEXED

#### *Reports of Surveys, Proceedings of Societies, etc.*

- Ann. Min. Rept. N. S. Wales.—Annual Mining Report of New South Wales.  
Cal. Miners' Assoc. Ann.—California Miners' Association Annual.  
Columbia Engr.—Columbia Engineer.  
P. I. C. E.—Proceedings of the Institute of Civil Engineers.

xiv PUBLICATIONS INDEXED AND ABBREVIATIONS

- Rept. Census Office, Mines and Quarries.—Report Census Office, Mines and Quarries.
- Rept. Insp. Mines Pa.—Report of the Inspector of Mines of Pennsylvania.
- Rept. Zinc Comm. Canada.—Report of the Commission Appointed to Investigate the Zinc Resources of British Columbia, etc.
- Second Geol. Sur. Pa.—Second Geological Survey of Pennsylvania.
- The Mines of the West.—Raymond.
- The Univ. Geol. Surv. of Kans.—The University Geological Survey of Kansas.
- Univ. of Ill. Bull.—University of Illinois Bulletin.
- U. S. Bureau of Mines.—United States Bureau of Mines.

JOURNALS

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- Coll. Guard.—Colliery Guardian, London.
- Concrete and Constructional Engineering, London.
- Electrochemical Industry.
- Eng. Mag.—Engineering Magazine.
- Eng. News.—Engineering News.
- Eng.-Cont.—Engineering Contracting.
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- Aerial or Wire Rope Tramways, Willis-Taylor.
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**Falls of Roof and Walls in Mines****FALLS IN SHAFTS: Shaft Accidents.**

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**SUMMARY OF THE "REPORT OF A COMMITTEE APPOINTED BY THE ROYAL COMMISSION ON MINES TO INQUIRE INTO THE CAUSES OF AND MEANS OF PREVENTING ACCIDENTS FROM FALLS OF GROUND, UNDERGROUND HAULAGE, AND IN SHAFTS: Shaft Accidents.** By F. H. Wynne. T. I. M. E., vol. 38, p. 653. 18 pages.

**SUMMARY OF THE "REPORT OF A COMMITTEE APPOINTED BY THE ROYAL COMMISSION ON MINES TO INQUIRE INTO THE CAUSES OF AND MEANS OF PREVENTING ACCIDENTS FROM FALLS OF GROUND, UNDERGROUND HAULAGE, AND IN SHAFTS," Part II: Falls of Roof and Sides.** By W. Charlton and F. H. Wynne. T. I. M. E., vol. 39, p. 378. 20 pages.

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#### **Spontaneous Combustion in and about Mines**

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#### **Mine Explosions**

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- EXPLOSIONS IN MINES AND COLLIERIES, AND METHODS OF VENTILATION.** Min. Mag., vol. 1, p. 97. 10 pages. I.
- REMARKS ON SOME RECENT EXPLOSIONS IN COAL MINES.** By C. J. Coll. J. M. Soc. N. S., vol. 13, p. 51. 16½ pages.
- VEWS RESPECTING COAL-MINE EXPLOSIONS: A Symposium.** E. & M. J., vol. 87, p. 12. 14½ columns.
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- THE MARIANNA EXPLOSION.** M. & M., vol. 29, p. 272. 13½ columns. I.
- FACTS CONCERNING THE MARIANNA EXPLOSION.** By F. W. Parsons. E. & M. J., vol. 86, p. 1162. 9 columns. I.
- THE LICK BRANCH EXPLOSION.** E. & M. J., vol. 87, p. 171. ¾ column.
- LICK BRANCH DISASTER:** Explosion. By H. H. Stock. M. & M., vol. 29, p. 360. 11½ columns. I.
- MINE EXPLOSION AT STEARNS, KENTUCKY.** By H. M. Payne. E. & M. J., vol. 89, p. 474. 5½ columns. I.
- MINE EXPLOSION AT STEARNS, KENTUCKY.** M. & M., vol. 30, p. 572. 4 columns. I.
- THE MULGA MINE EXPLOSION.** M. & M., vol. 31, p. 40. 4 columns. I and map of workings.
- THE MULGA MINE EXPLOSION.** E. & M. J., vol. 89, p. 978. 1½ columns.
- EXPLOSION AT PALAN NO. 2 MINE.** M. & M., vol. 31, p. 202. 3½ columns. I.
- EXPLOSION AT PALAN MINE, MEXICO.** M. & M., vol. 30, p. 462. 2 columns. I.
- THE DELAGUA, COLORADO, EXPLOSION.** By G. F. Duck. M. & M., vol. 31, p. 374. 13½ columns. I.
- NOTES ON THE DELAGUA, COLORADO, EXPLOSION.** M. & M., vol. 31, 641. 4 columns. I.
- THE STARKVILLE, COLORADO, EXPLOSION.** M. & M., vol. 31, p. 261. 4 columns. I.
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- REPORT ON THE MONONGAH MINE EXPLOSION.** By George Harrison. E. & M. J., vol. 85, p. 264. 4 columns.
- THE BELLEVUE EXPLOSION, ALBERTA.** By J. Ashworth. M. & M., vol. 31, p. 399. 4 columns. I.
- THE PALOS MINE DISASTER.** M. & M., vol. 30, p. 736. 2½ columns. I.
- BANNER MINE EXPLOSION.** M. & M., vol. 31, p. 675. 2 columns.
- NOTES ON THE NORTON HILL COLLERY EXPLOSION.** By H. M. Morgan. E. & M. J., vol. 87, p. 994. 5 columns.
- A NATAL COLLERY EXPLOSION, AND UNDERGROUND FIRES IN FIERY MINES.** By W. T. Heslop. T. I. M. E., vol. 38, p. 338. 16 pages. I.
- See also **MINE FIRES.**
- MAYPOLE AND HULTON DISASTERS:** Mine Explosions. M. & M., vol. 31, p. 667. ¾ column.
- THE COKEDEALE, COLORADO, EXPLOSION.** By G. F. Duck. M. & M., vol. 31, p. 658. 9½ columns. Map.
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- PHENOMENA PRECEDING GAS EXPLOSIONS.** By Francis Laur. E. & M. J., Sept. 11, 1909.
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- THE CAUSE OF COAL-MINE EXPLOSIONS.** By William Griffiths. E. & M. J., vol. 85, p. 301. 1½ columns.
- MINE EXPLOSIONS AND THEIR CAUSES.** By J. Taylor. E. & M. J., vol. 87, p. 1191. 1½ columns.
- REPORT ON CAUSE OF EXPLOSION AT THE SHORT CREEK MINE.** E. & M. J., vol. 87, p. 896. ½ column.
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- MINE EXPLOSIONS AS RELATED TO EARTHQUAKES.** By W. A. Spalding. E. & M. J., vol. 87, p. 899. 1 column.
- MINE EXPLOSIONS AS RELATED TO EARTHQUAKES.** By W. A. Spalding. E. & M. J., vol. 87, p. 411. 9 columns.
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**THE CONTROL OF COAL MINE EXPLOSIONS.** By H. J. Nelms. E. & M. J., vol. 87, p. 14. 2½ columns.

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**THE VALUE OF ZONES IN STOPPING FLAME.** By J. Virgin. E. & M. J., vol. 88, p. 1173. 1½ columns.

**ISOLATION OF CERTAIN AREAS FROM CONTACT WITH AFTER-GASES BY AN EXPLOSION.** By N. Robinson. M. & M., vol. 29, p. 372. 1½ columns. I.

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**SEALING SHAFTS AFTER EXPLOSION.** By J. A. Garcia. M. & M., vol. 30, p. 59. 6½ columns. I.

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#### Poisoning and Injuries

**LEAD POISONING AND SUBLIMED WHITE LEAD.** By J. I. Blair. E. & M. J., vol. 90, p. 1061. 2½ columns.

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**TREATMENT OF BURNS.** P. C. M. & M. Soc. S. A., vol. 5, p. 67. ½ column.

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**EXPLOSION AT THE ALASKA-MEXICAN MINE.** By R. A. Kinzie. E. & M. J., vol. 89, p. 603. 2 columns. I.

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**LANDSLIDES IN THE SAN JUAN MOUNTAINS, COLORADO, INCLUDING A CONSIDERATION OF THEIR CAUSES AND THEIR CLASSIFICATION.** By L. C. Graton and C. H. Gordon. U. S. G. S., Professional Paper 67, 58 pages. I. 1909.

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## BLASTING IN MINES: METHODS AND CONDITIONS

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THE THEORY OF BLASTING WITH HIGH EXPLOSIVES. By H. M. Thomas. E. & M. J., vol. 88, p. 349. 10½ columns. I.

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**CHEMISTRY: METHODS AND PRACTICE****General**

**REPORT OF THE INTERNATIONAL COMMITTEE ON ANALYSIS TO THE SIXTEEN INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY AT ROME, 1906.** P. C. M. & M. Soc. S. A., vol. 7, p. 89.  $9\frac{1}{2}$  columns.

**THE INDUSTRIAL OUTLOOK FOR PHYSICAL CHEMISTRY.** By A. Sang. P. E. Soc. W. Pa., vol. 23, p. 32. 15 pages.

**THE TECHNICAL ANALYSIS OF FLUORSPAR.** P. C. M. & M. Soc. S. A., vol. 7, p. 52.  $\frac{1}{2}$  column.

**A SYSTEM OF QUANTITATIVE ANALYSIS FOR THE COMMON ELEMENTS.** P. C. M. & M. Soc. S. A., vol. 7, p. 373.  $1\frac{1}{2}$  columns.

**VALUE OF FLUE-GAS ANALYSIS.** E. & M. J., vol. 86, p. 858.  $\frac{1}{2}$  column.

- GRADING ANALYSES AND THEIR APPLICATION.** By H. Stadler. P. C. M. & M. Soc. S. A., vol. 10, p. 382. 16½ columns. I.
- GRADING ANALYSES AND THEIR APPLICATION.** By H. Stadler. T. I. M. & M., vol. 19, p. 471. 15 pages. I.
- SOURCES OF ERROR IN ANALYSES.** By R. C. Benner. Min. & Sci. Press, vol. 100, p. 492. 4 columns. I.
- GRADING ANALYSES.** By E. Stadler. M. & M., vol. 31, p. 344. 11 columns.
- CONTRIBUTIONS TO CHEMISTRY AND MINERALOGY FROM THE LABORATORY OF THE UNITED STATES GEOLOGICAL SURVEY.** By F. W. Clarke. U. S. G. S., Bull. 167. 166 pages. 1900.
- COMBINED OFFICE AND LABORATORY BUILDING.** By E. W. Buskett. E. & M. J., vol. 89, p. 1054. 2½ columns. I.
- MINE LABORATORY WORK AT GARY, WEST VIRGINIA.** By V. Klier. M. & M., vol. 31, p. 217. 3½ columns. I.
- TECHNICAL METHODS OF ANALYSIS.** By W. A. Seamon. Min. & Sci. Press, vol. 95, p. 249. 3½ columns.
- ANALYTICAL METHODS IN THE CANAEGA LABORATORY.** By F. G. Hawley. E. & M. J., vol. 90, p. 647. 12 columns.
- NEW ANALYTICAL METHODS.** By F. H. Mason. Min. & Sci. Press., vol. 100, p. 683. 2 columns.
- A RAPID METHOD OF QUANTITATIVE ANALYSIS.** P. C. M. & M. Soc. S. A., vol. 9, p. 242. 2 columns.
- NEW METHODS FOR THE PREPARATION OF HYDROGEN SULPHIDE.** P. C. M. & M. Soc. S. A., vol. 7, p. 371. 1 column.
- THE ANALYSES OF SOME WITWATERS-RAND SOILS.** By E. H. Croghan. P. C. M. & M. Soc. S. A., vol. 5, p. 18, 7 columns; p. 79, 6 columns; p. 97, 6 columns.
- DETECTION OF MERCURY IN NITROGLYCERINE.** P. C. M. & M. Soc. S. A., vol. 9, p. 214. 1½ columns.
- See also TESTING EXPLOSIVES.
- FRACTIONATION OF CRUDE PETROLEUM BY CAPILLARY FILTRATION.** By D. T. Day. U. S. G. S., Mineral Resources, 1907.
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- THE SANITARY VALUE OF WATER ANALYSIS.** P. C. M. & M. Soc. S. A., vol. 7, p. 93. ¼ column.
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- See also POLLUTION AND PURIFICATION OF WATER.
- THE REDUCTION OF CALCIUM SULPHATE BY CARBON MONOXIDE AND CARBON, AND THE OXIDATION OF CALCIUM SULPHIDE.** By H. O. Hoffman and W. Mostowitsch. T. A. I. M. E., vol. 41, p. 763. 24 pages. I.
- CHEMISTRY OF THE BROMO-CYANOGEN PROCESS.** By S. H. Worrell. Min. & Sci. Press, vol. 98, p. 356. 2½ columns.
- See also CYANIDING OF ORES.
- THE SEPARATION AND IDENTIFICATION OF THE MOST IMPORTANT CONSTITUENTS OF ESSENTIAL OILS.** By A. Hoffman. Sch. Mines Quart., vol. 30, p. 139. 5 pages.
- AUTOXIDATION OF ORGANIC COMPOUNDS.** By K. G. Falk. Sch. Mines Quart., vol. 29, p. 15. 9 pages.

**THE INFLUENCE OF MOIST AIR ON  
QUICKLIME.** By J. Gray. P. C. M.  
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columns.

**BACTERIA AS AGENT IN THE OXIDATION  
OF AMORPHOUS CARBON.** P. C. M.  
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**ENGINEERING CHEMISTRY IN CHEMICAL  
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**THE UTILIZATION OF ATMOSPHERIC  
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**GEOCHEMISTRY:** The Relation between Geology and Chemistry. By G. T. Halloway. M. & M., vol. 30, p. 657, 6 columns; p. 757, 4 columns.

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**THE BLOW-PIPE AND ITS USE IN  
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See also MEASURES AND WEIGHTS.

**Determination of Bismuth, Molybdenum, Mercury, Tellurium, Wolfram, Etc.**

**A VOLUMETRIC METHOD FOR THE DETERMINATION OF MERCURY.** By W. H. Seamon. E. & M. J., vol. 87, p. 1047. 3 columns.

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**THE JAMES APPARATUS FOR QUICK-SILVER DETERMINATION.** By G. A. James. E. & M. J., vol. 90, p. 800. 2 columns. I.

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**EXTRACTION AND USE OF MOLYBDENUM.** P. C. M. & M. Soc. S. A., vol. 9, p. 171. 1 column.

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#### Acid Manufacture

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#### Determination of Antimony, Arsenic, etc.

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**RAPID ESTIMATION OF ARSENIC.** E. & M. J., vol. 87, p. 945. 2 columns.

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**NOTE ON A DEPOSIT OF SULPHUR IN A COLLIERY WATER.** By G. H. Stanley. T. I. M. E., vol. 36, p. 223. 4 pages.

See also CHEMISTRY: METHODS AND PRACTICE.

#### Gold and Silver Analysis

**PLATTNER'S TEST FOR GOLD ORES.** Min. Mag., vol. 6, p. 52. 2 pages.

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**METHOD FOR ANALYSIS OF GOLD-SILVER BULLION.** P. C. M. & M. Soc. S. A., vol. 8, p. 86. 5 columns.

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#### Paint Manufacture

**BLAIR'S ZINC-LEAD PIGMENT PLANT.** By J. I. Blair. M. & M., vol. 31, p. 698.  $4\frac{1}{2}$  columns. I.

**THE USE OF COBALT OXIDE FOR MAKING PIGMENTS.** By J. J. McEachern. J. C. M. I., vol. 13, p. 605.  $15\frac{1}{2}$  pages.

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#### Methods of Determining Lead

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THE LITHARGE METHOD. P. C. M. & M. Soc. S. A., vol. 8, p. 154. 1½ columns.

#### Methods of Determining Zinc

CONTRIBUTIONS TO THE CHEMISTRY OF ZINC SMELTING. E. & M. J., vol. 88, p. 604. 1 column.

ANALYSIS OF MINERALS CONTAINING ZINC. P. C. M. & M. Soc. S. A., vol. 7, p. 372. 1½ columns.

DELICATE METHOD OF PRECIPITATING ZINC. P. C. M. & M. Soc. S. A., vol. 7, p. 298. Note.

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#### Chemical Analysis in Cyaniding

CHEMISTRY OF THE CYANIDE PROCESS. By W. H. Seamon. M. & M., vol. 31, p. 689. 2½ columns.

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- SPURIOUS POTASSIUM CYANIDE.** E. & M. J., vol. 89, p. 156. 2½ columns.  
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- THE DETERMINATION OF TUNGSTIC ACID IN LOW-GRADE ORES.** E. & M. J., vol. 87, p. 1141. 2½ columns.
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- Coal Analysis**
- ACCURACY OF COAL ANALYSIS.** P. C. M. & M. Soc. S. A., vol. 9, p. 132. 2 columns.
- ANALYSES OF BERING RIVER COALS, ALASKA.** E. & M. J., vol. 90, p. 272. Table.
- THE ANALYSIS OF COAL.** By N. W. Ford. M. & M., vol. 30, p. 85. 5½ columns.
- ANALYSIS OF WEST VIRGINIA COALS.** M. & M., vol. 29, pp. 305, 306, and 307. Tables.
- CHEMICAL ANALYSES OF COALS TESTED AT THE UNITED STATES FUEL-TESTING PLANT, NORFOLK, VIRGINIA.** By J. S. Burrows. U. S. G. S., Bull. 362. 23 pages. 1908.  
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- METHODS OF ANALYZING ILLINOIS COALS.** T. A. I. M. E., vol. 40, p. 21. 3 pages.
- ANALYSIS OF ILLINOIS COALS.** T. A. I. M. E., vol. 40, p. 5. 1 page. Tables; pp. 22 and 23.
- CHEMICAL CONTROL OF COAL WASHERS.** By R. Bolling. E. & M. J., vol. 86, p. 424. 8 columns. I.
- THERMOCHEMISTRY OF ANTHRACITE.** M. & M., vol. 30, p. 603. 4 columns.
- ESTIMATION OF ASH IN COKE.** By H. E. Hooper. E. & M. J., vol. 87, p. 899. 1½ columns.  
See also COKE: ITS PROPERTIES AND MANUFACTURE.
- Methods of Determining Copper**
- VOLUMETRIC DETERMINATION OF COPPER.** M. & M., vol. 30, p. 260. ½ column.

**A NEW VOLUMETRIC METHOD FOR COPPER AND THE ORES OF COPPER.** By A. Adair. P. C. M. & M. Soc. S. A., vol. 6, p. 188, 4 columns; p. 275, 1 column.

**A NEW VOLUMETRIC ASSAY FOR COPPER.** E. & M. J., vol. 85, p. 1197. 2 columns.

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**THIOCYANATE DETERMINATION OF COPPER.** By W. Tsukakaski. E. & M. J., vol. 90, p. 969. 1½ columns.

**RAPID ELECTROLYTIC DETERMINATION OF COPPER.** By R. C. Benner. E. & M. J., vol. 90, p. 517. 5½ columns.

**THE DETERMINATION OF COPPER IN COPPER-BISMUTH ORES.** By C. C. O'Loughlin. Min. & Sci. Press, vol. 101, p. 238. ¾ column.

**THE ELECTROLYTIC DETERMINATION OF COPPER AT TENNESSEE COPPER COMPANY.** By T. W. Cavers and J. P. Chadwick. E. & M. J., vol. 89, p. 954. 3 columns.

**COMPARISON OF THE IODIDE CYANIDE AND ELECTROLYTIC METHODS FOR COPPER.** E. & M. J., vol. 87, p. 159. 1½ columns.

**THE EFFECT OF THE PRESENCE OF CERTAIN "ADDITION-AGENTS" UPON THE DENSITY AND THE COHERENCE OF ELECTROLYTICALLY DEPOSITED COPPER, LEAD AND SILVER.** By R. P. Jarvis and E. F. Kern. Sch. Mines Quart., vol. 30, p. 100. 29 pages. I.

See also ELECTROLYTIC ANALYSIS.

**RAPID METHOD FOR DETERMINING COPPER IN SLAGS.** By F. D. Aller. E. & M. J., vol. 88, p. 1278. 1½ columns.

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See also METHODS OF DETERMINING COPPER.

### Methods of Determining Iron

**ANALYSES OF THE CLINTON IRON-ORE OF ALABAMA.** T. A. I. M. E., vol. 40, p. 86. Table.

**ANALYSES OF THE CLINTON IRON-ORES, HUNTINGDON COUNTY, PENNSYLVANIA.** T. A. I. M. E., vol. 40, p. 143. 2 pages. Tables.

**ANALYSES OF CLINTON OÖLITIC IRON-ORE, NEW YORK STATE.** T. A. I. M. E., vol. 40, p. 174. Table.

**DETERMINATION OF IRON IN BRASS AND BRONZE.** E. & M. J., vol. 88, p. 1269. 1 column.

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**THE STANDARDIZATION OF POTASSIUM PERMANGANATE SOLUTION AND ITS**

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**THE FERRITES, COMPOUNDS OF AN IRON ACID.** By J. S. C. Wells. E. & M. J., vol. 86, p. 420. 6 columns.

## COMPRESSED AIR IN MINING

### General

**SIMPLE PROBLEMS IN AIR-COMPRESSION.** By E. A. Rix. Min. & Sci. Press, vol. 96, p. 394. 7½ columns.

**COMPRESSED AIR CALCULATION SHORT CUTS.** By S. B. Redfield. E. & M. J., vol. 88, p. 1163. 3½ columns. D. **STORING COMPRESSED AIR IN A NATURAL ROCK RECEIVER.** E. & M. J., vol. 89, p. 406. 1 column.

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See also **COMPRESSED AIR PUMPING AND COMPRESSED AIR HAULAGE.**

**MOISTURE IN THE ATMOSPHERE AND ITS EFFECT ON THE OPERATION OF COMPRESSED AIR MACHINERY.** By H. M. P. Murphy. Min. & Sci. Press, vol. 97, p. 257. 7½ columns. Tables.

**OIL HEATER FOR COMPRESSED AIR.** Min. & Sci. Press, vol. 100, p. 929. 1½ columns. I.

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**HIGH VS. LOW PRESSURE FOR COMPRESSED AIR IN MINES.** By Robt. B. Brinsmade. E. & M. J., vol. 85, p. 161. 3½ columns.

**TEST ON A MODERN AIR-COMPRESSING PLANT AT THE LONG TUNNEL GOLD MINE, WALHALLA, AUSTRALIA.** By E. J. Rigby. T. Au. I. M. E., vol. 5, p. 259. 17 pages. I.

**LOSS OF OXYGEN IN HYDRAULIC AIR COMPRESSION.** By O. H. Landreth. E. & M. J., vol. 90, p. 508. 1 column.

**STEAM CONSUMPTION OF AIR COMPRESSORS.** By W. A. Macleod and J. P. Wood. T. Au. I. M. E., vol. 12, p. 165. 16 pages. D.

**POWER AT COBALT.** E. & M. J., vol. 88, p. 171. 1¼ columns.

**INEFFICIENCY OF COMPRESSED AIR SYSTEM, RAND MINES.** E. & M. J., vol. 85, p. 549. 1½ columns.

**THE TRANSMISSION OF POWER BY COMPRESSED AIR IN MINES.** By R. W. Chapman. T. Au. I. M. E., vol. 10, p. 309. 17 pages.

See also **POWER TRANSMISSION, ETC.**

See also **COMPRESSED AIR PUMPING.**

See also **CYANIDING GOLD, ETC., and COST OF POWER.**

### **Air Compressors, Types, Operation, Etc.**

**SMALL AIR COMPRESSORS AT MINES.** M. & M., vol. 31, p. 477. 1 column.

**TWO-STAGE AIR-LIFT COMPRESSOR.** Min. Mag., vol. 4, p. 141. 1 column. I.

**CENTRIFUGAL AIR COMPRESSOR.** M. & M., vol. 29, p. 279. 1½ columns. I.

**TURBOBLOWERS AND COMPRESSORS.** M. & M., vol. 31, p. 285. 3 columns. I.

- AIR COMPRESSING MACHINERY.** By J. Savaas. T. Au. I. M. E., vol. 8, pt. 2, p. 215. 12½ pages. I.
- ELECTRIC AIR COMPRESSOR.** By J. A. Seager. M. & M., vol. 31, p. 263. 1 column. I.
- IMPROVEMENTS IN COMPRESSOR VALVES.** E. & M. J., vol. 88, p. 915. 2½ columns. I.
- AIR COMPRESSOR VALVES.** E. & M. J., vol. 88, p. 1180. 2 columns.
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- DESCRIPTION OF THE COMPRESSED AIR ENGINE AT GOVAN COLLIERY.** By W. C. Randolph. Min. Mag., vol. 9, p. 51. 2½ pages.
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- Hydraulic Air Compression and Compressors**
- HYDRAULIC AIR COMPRESSOR.** P. C. M. & M. Soc. S. A., vol. 8, p. 132. ½ column.
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- BLAKNEY HYDRAULIC AIR COMPRESSOR.** E. & M. J., vol. 87, p. 841. ½ column. I.
- HYDRAULIC AIR COMPRESSION.** By E. B. Wilson. M. & M., vol. 31, p. 129. 4½ columns. I.
- COBALT HYDRAULIC AIR COMPRESSOR.** By C. H. Taylor. M. & M., vol. 30, p. 532. 5 columns. I.

### Compressed Air Haulage

**NEW COMPRESSED AIR LOCOMOTIVE.** E. & M. J., vol. 89, p. 1187. 2 columns. I.

### Explosion in Air Compressors, Diseases, Etc.

**DISASTROUS AIR EXPLOSIONS: Explosions in Air Compressors.** M. & M., vol. 31, p. 683. ½ column.

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## CLAYS AND THEIR USES

### General

- A BIBLIOGRAPHY OF CLAYS AND THE CERAMIC ARTS.** By J. C. Branner. U. S. G. S., Bull. 143. 114 pages. 1896.
- TECHNOLOGY OF CLAY INDUSTRY.** By H. Ries. U. S. G. S., 16th Ann. Rept., pt. 4. 52 pages.
- CHINA-CLAY: Its Nature and Origin.** By G. Hickling. T. I. M. E., vol. 36, p. 10. 25 pages. I.
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**CHINA-CLAY: Its Nature and Origin.** By G. Hickling. T. I. M. E., vol. 36, p. 10. 25 pages. I.

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### Brick and Clay Products

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## CONCENTRATION

### General

**CONCENTRATION METHODS EMPLOYED IN AUSTRALIA.** T. Au. I. M. E., vol. 12, p. 105. 26 pages. Flow sheets.

**ORE CONCENTRATION.** P. C. M. & M. Soc. S. A., vol. 8, p. 393. 2 columns.

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See also COST OF MILLING.

### Preparation of Coal

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**PARABOLIC COAL PICKING PLATE.** M. & M., vol. 30, p. 597.  $\frac{1}{4}$  column. I.
- A NEW SEPARATOR FOR THE REMOVAL OF SLATE FROM COAL.** By W. S. Ayres. T. A. I. M. E., vol. 40, p. 648. 7 pages. I.
- CLEANING COAL BY THE DRY PROCESS.** M. & M., vol. 30, p. 335. 2 columns. I.
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**INVESTIGATION ON JIGGING.** By R. P. Jarvis. T. A. I. M. E., vol. 39, p. 451. 70 pages. D.

**WOODEN JIG GRATES IN THE JOPLIN DISTRICT.** By O. Ruhl and F. Sansom. E. & M. J., vol. 88, p. 1025. 3½ columns. I.

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#### **Hand Dressing, Sorting**

**HAND-PICKING ORES IN SARDINIA.** T. A. I. M. E., vol. 39, p. 79. ½ page.

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**ORE SORTING AT THE CABRESTANTE MINES, SANTA BARBARA, MEXICO.** By C. T. Rice. E. & M. J., vol. 86, p. 464. 6½ columns. I.

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#### **Flotation Processes**

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- METHODS OF ELECTROCHEMICAL AMALGAMATION.** By E. E. Carey. Min. & Sci. Press, vol. 100, p. 394. 2 columns.
- USES AND LIMITATIONS OF ELECTROLYTIC AMALGAMATION.** By J. H. Jory. Min. & Sci. Press, vol. 99, p. 476.  $1\frac{1}{2}$  columns. I.
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- See also **FINE CRUSHING BY MILLS.**
- THE WASHOE PROCESS.** By A. D. Hodges, Jr. Min. & Sci. Press, vol. 100, p. 757. 3 columns.
- CLEANING MERCURY.** Min. & Sci. Press, vol. 96, p. 695.  $\frac{1}{2}$  column.
- NOTES ON MILL CONSTRUCTION, MILLING AND AMALGAMATION.** By I. Roskelley. P. C. M. & M. Soc. S. A., vol. 5, p. 9, 9 columns, I.; p. 49, 9 columns.
- See also **MINE BUILDINGS, ETC., and Cost of Milling.**
- Flow-Sheets**
- FLOW-SHEET OF REPORTS.** E. & M. J., vol. 89, p. 1217.  $\frac{1}{2}$  column. D.
- FLOW-SHEET OF ASBESTOS TREATMENT IN QUEBEC.** J. C. M. I., vol. 13, p. 413. I.
- See also **OCCURRENCE OF ASBESTOS.**
- FLOW-SHEET OF THE BEAVER BROOK BREAKER.** M. & M., vol. 30, p. 707. D.
- See also **PREPARATION OF COAL.**
- REVISED FLOW-SHEET OF UTAH COPPER MILL.** By C. T. Rice. E. & M. J., vol. 90, p. 1264. 3 columns. I.
- FLOW-SHEET OF THE OHIO CONCENTRATOR.** Min. & Sci. Press, vol. 101, p. 303. Diagram.

- FLOW-SHEET OF THE MIAMI MILL, ARIZONA.** M. & M., vol. 31, p. 2. I.
- FLOW-SHEET OF THE Mt. MORGAN, MINE.** M. & M., vol. 29, p. 4. I.
- FLOW-SHEET OF ELECTROSTATIC SEPARATION.** M. & M., vol. 30, p. 364. D.  
See also ELECTRO-STATIC SEPARATION.
- FLOW-SHEETS OF THE LORETO AND QUERÉTARO MILLS, MEXICO.** Min. Mag., London, vol. 2, pp. 130 and 131. D.
- FLOW-SHEET OF THE JESUS MARIA MILL, GUANAJUATO.** E. & M. J., vol. 86, p. 616. I.
- FLOW-SHEETS FOR COBALT MILLS.** E. & M. J., vol. 90, pp. 1254, 1255, 1256, and 1257. D.
- FLOW-SHEET AT THE AJUCHITLAN MILL, QUERÉTARO, MEXICO.** Min. & Sci. Press., vol. 100, p. 214. 1 column. I.
- FLOW-SHEET OF THE FLORENCE-GOLDFIELD MILL.** E. & M. J., vol. 89, p. 366. I.
- FLOW-SHEETS OF ORE TREATMENT AT KALGURLI, AUSTRALIA.** Min. & Sci. Press., vol. 101, p. 402. D.
- FLOW-SHEET OF THE MONTGOMERY-SHOSHONE MILL.** E. & M. J., vol. 89, p. 218. I.
- FLOW-SHEET OF THE CONQUEROR TAILINGS PLANT.** E. & M. J., vol. 89, p. 668. I.
- FLOW-SHEET OF THE MIDVALE PLANT.** M. & M., vol. 30, p. 518. D.
- FLOW-SHEETS OF HERCULES AND FEDERAL'S MAMMOTH MILL.** E. & M. J., vol. 88, pp. 1105, 1106. D.
- FLOW-SHEET IN THE COEUR D'ALENE DISTRICT:** Typical. E. & M. J., vol. 89, p. 824. I.
- FLOW-SHEET OF DOE RUN MILL, MISSOURI.** E. & M. J., vol. 89, p. 611. I.
- FLOW-SHEET OF GRAPHITE TREATMENT.** M. & M., vol. 30, p. 394. 3 columns. D.  
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- FLOW-SHEETS OF AMERICAN AND MEXICAN MILLS.** E. & M. J., vol. 88, p. 864, 12 columns, I.; p. 966, 8 columns. D.
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- NOTES ON THE SCALING AND SWEATING OF COPPER BATTERY PLATES.** By S. F. Goddard. T. I. M. & M., vol. 18, p. 495. 4 pages.
- THE SILVER COATING OF AMALGAMATING PLATES.** P. C. M. & M. Soc. S. A., vol. 9, p. 142. 2 columns. I.
- THE SILVER COATING OF AMALGAMATING PLATES.** P. C. M. & M. Soc. S. A., vol. 9, p. 222.  $\frac{1}{2}$  column.
- SILVER COATING OF AMALGAMATING PLATES.** By W. A. Caldecott. Min. & Sci. Press., vol. 98, p. 92.  $1\frac{1}{2}$  columns.
- COPPER PLATE ABSORPTION.** P. C. M. & M., Soc. S. A., vol. 9, p. 214.  $1\frac{1}{2}$  columns.
- THE USE OF ELECTRO-PLATED COPPER PLATES IN THE BATTERY.** By F. W. Cindel. P. C. M. & M. Soc. S. A., vol. 5, p. 92, 6 columns; p. 175, 3 columns; p. 205,  $1\frac{1}{2}$  columns; p. 316,  $\frac{1}{2}$  column.
- DRESSING PLATES AS AFFECTING AMALGAMATION.** E. & M. J., vol. 88, p. 556.  $2\frac{1}{2}$  columns.
- MONEL METAL.** E. & M. J., vol. 86, p. 1256.  $\frac{1}{2}$  column.
- SCALING AND SWEATING OF COPPER BATTERY PLATES.** By S. F. Goddard. Min. & Sci. Press., vol. 99, p. 368. 1 column.
- THE AVERAGE RATE OF ACCUMULATION AND ABSORPTION OF GOLD AMALGAM BY COPPER PLATES.** By E. Halse. T. I. M. & M., vol. 17, p. 486. 12 pages.
- ABSORPTION OF GOLD AMALGAM BY COPPER PLATES.** E. & M. J., vol. 86, p. 996.  $1\frac{1}{2}$  columns.
- THE ABSORPTION AND ACCUMULATION OF GOLD ON COPPER PLATES.** By W. F. A. Thomas. T. I. M. & M., vol. 17, p. 482.  $3\frac{1}{2}$  pages.

**Pan Amalgamation**

A NEW AMALGAMATING PAN. Min. & Sci. Press, vol. 20, p. 209. 3 columns. I.

PAN - AMALGAMATION EXPERIMENTS. By H. O. Hofman and C. R. Hayward. Min. & Sci. Press, vol. 99, p. 529. 9½ columns. I.

PAN - AMALGAMATION: An Instructive Laboratory Experiment. By H. O. Hofman and C. R. Hayward. T. A. I. M. E., vol. 40, p. 382. 16 pages. I.; Discussion, p. 864. 10 pages. I.

**Amalgamating Apparatus (Amalgamators)**

THE PIERCE AMALGAMATOR. E. & M. J., vol. 85, p. 112. 1 column. I.

THE PIERCE AMALGAMATOR. By J. H. Haynes. M. & M., vol. 29, p. 524. 3 columns. I.

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A TAIL-BOX FOR AMALGAMATION: Amalgam Trap. By H. S. Reed, Jr. E. & M. J., vol. 89, p. 599. 2 columns. I.

**The Patio Process of Amalgamation**

THE PATIO PROCESS. By C. P. Duarte. P. C. M. & M. Soc. S. A., vol. 9, p. 105. 9½ columns.

THE PATIO PROCESS. By F. MacCoy. E. & M. J., vol. 90, p. 958. 2½ columns. I.

THE PATIO PROCESS AT THE GUADALUPE Hacienda, PACHUCA, MEXICO. E. & M. J., vol. 86, p. 559. 5 columns. I.

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**Electrostatic Separation**

ELECTROSTATIC SEPARATION. By H. A. Wentworth. Min. & Sci. Press, vol. 101, p. 567. 2½ columns.

THE BLAKE-MORSCHER ELECTROSTATIC SEPARATOR. M. & M., vol. 30, p. 363. 2 columns. I.

ELECTROSTATIC SEPARATION OF MINERALS IN ORES. By H. A. Wentworth. E. & M. J., vol. 90, p. 15. 8½ columns. I.

ELECTROSTATIC ZINC SEPARATION. By L. A. Palmer. M. & M., vol. 30, p. 362. 9 columns. I.

ELECTROLYTIC SEPARATION OF NICKEL AND COPPER. P. C. M. & M. Soc. S. A., vol. 9, p. 53. ½ column.

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**Magnetic Separation**

ELECTRO MAGNETIC SEPARATION. By J. N. Judson. E. & M. J., vol. 88, p. 270. 3½ columns.

ELECTRICITY AS A FACTOR IN ORE DRESSING: Magnetic Concentration. By W. B. Roberts. T. Au. I. M. E., vol. 1, p. 131. 4 pages. I.

AN ELECTROMAGNET FOR TESTING THE SUITABILITY OF AN ORE FOR MAGNETIC SEPARATION. By L. H. L. Huddart. E. & M. J., vol. 85, p. 1008. 1½ columns. I.

AN ELECTRO-MAGNET FOR TESTING THE SUITABILITY OF AN ORE FOR MAGNETIC SEPARATION. By L. H. L. Huddart. T. I. M. & M., vol. 17, p. 435. 5 pages. I.

THE MAGNETIC PROPERTIES OF IRON AND STEEL AT LIQUID AIR TEMPERATURES. By C. C. Trowbridge. Sch. Mines Quart., vol. 24, p. 72. 12 columns. I.

THE MUREX MAGNETIC PROCESS: Magnetism Applied to Flotation. Min. Mag., London, vol. 1, p. 142. 4 columns.

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See also FLOTATION PROCESSES.

THE FERRARIS MAGNETIC SEPARATOR: A New Form. Min. Mag., London, vol. 2, p. 227.  $\frac{1}{2}$  column. I.

THE GRÖNDAL PROCESS OF CONCENTRATING IRON ORES. By P. McN. Bennie. J. C. M. I., vol. 11, p. 189. 14 pages. I. Maps.

MAGNETIC CONCENTRATION OF IRON ORES BY THE GRÖNDAL PROCESS. By P. McN. Bennie. J. C. M. I., vol. 10, p. 261.  $12\frac{1}{2}$  pages. D.

MAGNETIC SEPARATION OF ZINC ORES IN THE SANTA BARBARA DISTRICT, MEXICO. E. & M. J., vol. 86, p. 211.  $1\frac{1}{2}$  columns.

MAGNETIC SEPARATION OF WOLFRAMITE. M. & M., vol. 31, p. 462. 1 column. I.

MAGNET USED IN THE SEPARATION OF TIN-OXIDE FROM WOLFRAM. T. I. M. & M., vol. 17, p. 157. Note. I.

THE SEPARATION OF TIN-OXIDE FROM WOLFRAM. By A. Treloar. T. I. M. & M., vol. 17, p. 137. 22 pages. I.

MAGNETIC SEPARATION OF MONAZITE IN THE CAROLINAS. T. A. I. M. E., vol. 40, p. 332. 6 pages. I.

MAGNETIC SEPARATION IN SARDINIA. T. A. I. M. E., vol. 39, p. 91. 3 pages.

MAGNETIC SEPARATION AT MONTEPONI. Min. Mag., London, vol. 2, p. 227.  $\frac{1}{2}$  column. I.

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#### Concentrators, Tables, Buddles, Etc.

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THE WILFLEY TABLE, I. By R. H. Richards. T. A. I. M. E., vol. 38, p. 556. 23 pages. I.

THE WILFLEY TABLE, II. By R. H. Richards. T. A. I. M. E., vol. 39, p. 303. 11 pages. I.

USE OF WILFLEY TABLES IN THE COEUR D'ALENE DISTRICT. E. & M. J., vol. 89, p. 822. 3 columns.

CONCENTRATION OF FINE SANDS ON A BELT VANNER. By T. M. Owen and J. F. Stephen. T. Au. I. M. E., vol. 13, p. 143.  $10\frac{1}{2}$  pages.

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TREATMENT OF SLIMES ON VANNERS. By R. Gahl. T. A. I. M. E., vol. 40, p. 517.  $21\frac{1}{2}$  pages. I.

See also SLIMES AND THEIR TREATMENT.

A SUSPENDED FRAME FRUE VANNER. By G. B. Shipley. E. & M. J., vol. 85, p. 415. 1 column. I.

VANNERS IN THE BUNKER HILL MILL. Min. Mag., London, vol. 3, p. 54.  $1\frac{1}{2}$  columns. I.

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LA POINT FLOUR-GOLD SEPARATOR. E. & M. J., vol. 85, p. 1141.  $\frac{1}{2}$  column. I.

GOLD SAVING TABLES ON CALIFORNIA DREDGES. E. & M. J., vol. 89, p. 1311. 2 columns. I.

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THE HENNING CONCENTRATING TABLE. E. & M. J., vol. 86, p. 134. 1 column. I.

THE TAYLOR CONCENTRATING TABLE. Min. & Sci. Press, vol. 95, p. 692.  $1\frac{1}{2}$  columns. I.

THE GOLDEN CYCLE CONCENTRATOR. M. & M., vol. 30, p. 673. 2 columns.

RITTERINGER'S PERCUSSION TABLE. Min. & Sci. Press, vol. 20, p. 130. 1 column. I.

OSCILLATING-TABLES FOR ORE TREATMENT IN SARDINIA. T. A. I. M. E., vol. 39, p. 83. 6 pages. I.

- RECIPROCATING TABLES IN THE BUNKER HILL MILL.** Min. Mag., London, vol. 3, p. 50. 6 columns.
- THE GREASE TABLE FOR COLLECTING DIAMONDS.** E. & M. J., vol. 89, p. 371.  $\frac{1}{2}$  column.
- CONSTRUCTION OF CANVAS TABLES FOR CANVAS SLIME PLANT.** E. & M. J., vol. 89, p. 356. 2 columns. I.
- AN IMPROVED BLANKET TABLE.** By T. White. T. Au. I. M. E., vol. 4, p. 36. 6 pages. I.
- BUDDLES FOR COARSE AND FINE ORE IN THE TIN WORKS OF YUNNAN DISTRICT, CHINA.** T. I. M. & M., vol. 19, p. 191. 1 page. I.
- THE BUDDLE AS A CONCENTRATOR OF COPPER SLIMES.** By C. T. Rice. E. & M. J., vol. 90, p. 1107. 5 columns. I.
- THE MEXICAN PLANILLAS.** E. & M. J., vol. 90, p. 353. 1 column. I.
- MEXICAN "PLANILLA" CONCENTRATOR.** By H. J. Baron. M. & M., vol. 30, p. 377. 3 columns. I.
- ORE CONCENTRATOR.** Min. & Sci. Press, vol. 22, p. 161. 1 column. I.
- CENTRIFUGAL DRY CONCENTRATOR.** Min. & Sci. Press, vol. 97, p. 608. 1 column.
- Washing Coal and Mineral**
- PROCESS OF COAL WASHING.** By S. Diescher. P. E. Soc. W. Pa., vol. 23, p. 199. 22 pages. I.
- DESCRIPTION OF WASHING (COAL) PLANTS IN OPERATION.** By W. G. Wilkins. P. E. Soc. W. Pa., vol. 23, p. 221. 20 pages. I.
- THE BITUMINOUS WASHERY AT TYLER, PENNSYLVANIA.** By E. K. Judd. E. & M. J., vol. 85, p. 457. 8 columns. I.
- THE OPERATION OF A COAL WASHERY IN COLORADO.** By W. F. Murray. E. & M. J., vol. 86, p. 1248. 9 columns. I.
- A MODERN COAL WASHERY IN NEW MEXICO.** E. & M. J., vol. 86, p. 182.  $6\frac{1}{2}$  columns.
- WASHING AND COKING TESTS OF COAL AT DENVER, COLORADO.** By A. W. Belden and others. U. S. G. S., Bull. 368. 54 pages. I. 1909.
- See also TESTING FUELS AND THEIR VALUE.
- DAWSON COAL WASHING PLANT, NEW MEXICO.** M. & M., vol. 29, p. 91. 2 columns. I.
- A NEW COAL WASHERY IN MICHIGAN.** By Lee Fraser. E. & M. J., vol. 87, p. 993.  $3\frac{1}{2}$  columns. I.
- COAL WASHING IN THE GREAT FALLS COALFIELD, MONTANA.** E. & M. J., vol. 87, p. 590. 1 column.
- THE COAL-WASHING PLANT AT THE DAWSON MINE, NEW MEXICO.** M. & M., vol. 31, p. 656.  $2\frac{1}{2}$  columns. I.
- ELECTRIC COAL WASHING IN SOUTH WALES.** P. C. M. & M. Soc. S. A., vol. 9, p. 281. 1 column.
- ERNEST COAL-WASHING PLANT.** M. & M., vol. 29, p. 251. 3 columns. I.
- SCAIFE AUTOMATIC TROUGH WASHER FOR COAL AND ORE.** M. & M., vol. 29, p. 328.  $\frac{1}{2}$  column. I.
- See also PREPARATION OF COAL.
- THE LOG WASHER IN ZINC MINING.** By L. L. Wittich. M. & M., vol. 31, p. 423. 1 column. I.
- LOG WASHERS USED IN MINNESOTA FOR WASHING IRON ORE.** M. & M., vol. 29, p. 97.  $3\frac{1}{2}$  columns. I.
- LOG WASHER FOR GOLD ORES.** E. & M. J., vol. 87, p. 936. 2 columns. I.
- ORE WASHING AT CRIPPLE CREEK.** By S. A. Worcester. Min. & Sci. Press, vol. 98, p. 291.  $3\frac{1}{2}$  columns.
- NEW TYPE OF WASHER FOR LOW-GRADE GOLD ORES.** By J. H. Pratt. E. & M. J., vol. 87, p. 935. 10 columns. I.
- NEW PLANT FOR WASHING IRON ORE, MESABI RANGE.** By E. K. Soper. E. & M. J., vol. 90, p. 712.  $5\frac{1}{2}$  columns. I.
- WASHING FLOORS FOR TIN CONCENTRATION, YUNNAN, CHINA.** T. I. M. & M., vol. 19, p. 191. 1 page. I.

SOMETHING NEW IN ORE WASHING: A Washer. Min. & Sci. Press, vol. 22, p. 392.  $\frac{1}{2}$  column.

BARITE WASHING. T. A. I. M. E., vol. 40, p. 739. 2 pages. I.

THE ROTARY PAN METHOD OF WASHING TIN ORE. P. C. M. & M., Soc. S. A., vol. 8, p. 175. 2 columns.

DIAMOND-WASHING. Min. Mag., London, vol. 3, p. 439. 2 columns. I.

See also COST OF WASHING COAL AND ORES.

#### Disposal of Waste

THE DISPOSAL OF RESIDUES AT KALGOORLIE. By H. Adams. T. Au. I. M. E., vol. 13, p. 115.  $1\frac{1}{2}$  pages. I.

THE JACKSON METHOD OF TAILINGS DISPOSAL. E. & M. J., vol. 85, p. 643. 3 columns. I.

DISPOSAL OF SLIMES AND TAILINGS AT STELLA MINE, NEW YORK. E. & M. J., vol. 88, p. 556.  $1\frac{1}{4}$  columns. I.

TAILING DISPOSAL PLANT AT THE WOLVERINE MILL. By C. K. Baldwin. E. & M. J., vol. 88, p. 71. 8 columns. I.

TAILING DISPOSAL AT MERCUR, UTAH. By H. W. MacFarren. Min. & Sci. Press, vol. 97, p. 125.  $1\frac{1}{2}$  columns. I.

CONVEYING TAILING THROUGH PIPE. Min. & Sci. Press, vol. 95, p. 78.  $1\frac{1}{4}$  columns.

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CONVEYING TAILING IN LAUNDERS. By C. W. Van Law. Min. & Sci. Press, vol. 95, p. 457. 1 column.

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CONVEYOR SYSTEM FOR DISPOSING OF WASTE. By E. Higgins. E. & M. J., vol. 87, p. 210. 3 columns. I.

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DUMPING RESIDUE AT KALGOORLIE. By M. W. Von Bernewitz. Min. & Sci. Press, vol. 95, p. 368.  $4\frac{1}{2}$  columns, I.; p. 459, 2 columns, I.

HANDLING TAILINGS AT COLORADO CITY. By R. L. Herrick. M. & M., vol. 30, p. 621.  $5\frac{1}{2}$  columns. I.

METHOD OF HANDLING SLIMES AND TAILINGS. By A. O. Ihlseng. E. & M. J., vol. 89, p. 762.  $2\frac{1}{2}$  columns. I.

IMPOUNDING MILL TAILING. By H. W. MacFarren. Min. & Sci. Press, vol. 99, p. 333. 2 columns. I.

THE CALUMET AND HECLA SAND WHEELS. By C. L. Fichtel. E. & M. J., vol. 90, p. 218.  $3\frac{1}{2}$  columns. I.

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#### Classifiers and Classification

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CLASSIFIERS IN ORE DRESSING. Min. & Sci. Press, vol. 20, p. 66. 1 column. I.

- THE WILSON HYDRAULIC SEPARATOR.** P. C. M. & M. Soc. S. A., vol. 8, p. 176. 2 columns. I.
- THE MERRILL CLASSIFIER.** E. & M. J., vol. 87, p. 808.  $\frac{1}{2}$  column. I.
- THE BLANC TURBO-CLASSIFIER.** E. & M. J., vol. 87, p. 500.  $2\frac{1}{2}$  columns. I.
- THE CHAPMAN CLASSIFIER.** E. & M. J., vol. 89, p. 917. I.
- PIPE CLASSIFIER:** Used at the Bunker Hill and Sullivan Mill. Min. & Sci. Press, vol. 100, p. 121. 2 columns. I.
- THE DORR CLASSIFIERS:** Used at the Pachuca Mills. E. & M. J., vol. 86, p. 650.  $1\frac{1}{2}$  columns.
- THE SOUCHON CLASSIFIER.** E. & M. J., vol. 85, p. 1009.  $1\frac{1}{2}$  columns. I.
- DIAPHRAGM CONES AND TUBE-MILLING.** By W. Neal. Min. & Sci. Press, vol. 100, p. 483. 7 columns. I.
- See also FINE CRUSHING BY MILLS.
- SAND SEPARATORS:** Unwatering Apparatus at Wolverine Mill. E. & M. J., vol. 88, p. 72. 1 column. I.
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- Slimes and Their Treatment**
- THE ELEMENTS OF SLIME CONCENTRATION.** By W. McDermott. T. I. M. & M., vol. 19, p. 400. 31 pages. I.
- SLIME TREATMENT.** By A. M. Nicholas. Min. & Sci. Press, vol. 95, p. 583. 1 column. I.
- SLIME TREATMENT.** Min. & Sci. Press, vol. 95, p. 715. 3 columns. I.
- TREATMENT OF ORE SLIME.** By A. F. Crosse. P. C. M. & M. Soc. S. A., vol. 10, p. 172. 4 columns. I.
- TREATMENT OF SLIME.** P. C. M. & M. Soc. S. A., vol. 10, p. 408. 5 columns. D.
- TREATMENT OF SLIMES.** By W. B. Gray. T. Au. I. M. E., vol. 5, p. 138.  $4\frac{1}{2}$  pages.
- TREATMENT OF SLIME.** By H. C. Nichols. Min. Mag., London, vol. 1, p. 221.  $6\frac{1}{2}$  columns. I.
- CONCENTRATION OF SLIME.** By W. E. Darro. Min. & Sci. Press, vol. 95, p. 268. 2 columns.
- SLIME CONCENTRATION.** By F. R. Porter. Min. & Sci. Press, vol. 100, p. 431.  $2\frac{1}{2}$  columns.
- CONCENTRATION OF SLIME.** By M. W. Von Bernewitz. Min. & Sci. Press, vol. 101, p. 777.  $2\frac{1}{2}$  columns. I.
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- THE ELEMENTS OF SLIME CONCENTRATION.** E. & M. J., vol. 89, p. 1105. 4 columns.
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- SLIME SETTLEMENT.** E. & M. J., vol. 86, p. 854.  $1\frac{1}{2}$  columns.
- CLASSIFICATION OF SLIMES.** Min. & Sci. Press, vol. 101, p. 206.  $3\frac{1}{2}$  columns.
- DEWATERING SLIMES.** Min. & Sci. Press, vol. 101, p. 208.  $5\frac{1}{2}$  columns. I.
- SLIME SETTLER OR DEWATERER.** By R. E. Huntley. M. & M., vol. 31, p. 339.  $1\frac{1}{2}$  columns.
- See also CLASSIFIERS AND CLASSIFICATION.
- VANNERS FOR TREATING SLIMES.** T. A. I. M. E., vol. 40, p. 517.  $21\frac{1}{2}$  pages. I.
- SLIME TREATMENT BY BELT-TABLES IN SARDINIA.** T. A. I. M. E., vol. 39, p. 86.  $1\frac{1}{2}$  pages. I.
- See also CONCENTRATORS, TABLES, ETC.
- A METHOD OF SETTLING SLIMES, AS APPLIED TO THEIR SEPARATION FROM SOLUTION IN CYANIDE TREATMENT.** By H. G. Nichols. T. I. M. & M., vol. 17, p. 293. 38 pages. I.
- See also CYANIDING OF ORES.
- STATIONARY AND MOVING SURFACES FOR SLIME CONCENTRATION.** T. I. M. & M., vol. 19, p. 401. 4 pages.
- THE JAMES SLIMER.** By M. T. Hoster. E. & M. J., vol. 86, p. 1149.  $1\frac{1}{2}$  columns. I.

- TABLES OR SAND JIGS.** E. & M. J., vol. 85, p. 1041. 1 column.  
 See also CONCENTRATORS, TABLES, ETC., JIGS AND JIGGING, and SAND TREATMENT.
- GOLD SLIMES TREATMENT:** Filtering. E. & M. J., vol. 87, p. 902. 2 columns. I.  
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- SLIME TREATMENT AT BROKEN HILL, NEW SOUTH WALES.** E. & M. J., vol. 87, p. 939. ½ column.
- SLIME TREATMENT AT KALGOORLIE.** By M. W. Von Bernewitz. Min. & Sci. Press, vol. 95, p. 743. 2 columns. I.
- SLIME TREATMENT AT THE MONTGOMERY-SHOSHONE MILL.** E. & M. J., vol. 89, p. 219. 1½ columns.
- SLIME TREATMENT AT THE PITTSBURG SILVER PEAK MILL, NEVADA.** M. & M., vol. 29, p. 571. 1 column.
- SLIME TREATMENT AT THE DESERT MILL, MILLERS, NEVADA.** Min. & Sci. Press, vol. 95, p. 496. 3 columns. I.
- SLIME TREATMENT AT TONOPAH, NEVADA.** E. & M. J., vol. 87, p. 596. 1 column.
- SLIME TREATMENT AT MINAS DEL TAJO, SINALOA.** E. & M. J., vol. 89, p. 568. 1½ columns.
- SLIME TREATMENT IN THE GUANAJATO CYANIDE MILLS.** E. & M. J., vol. 86, p. 998, 2 columns; p. 1001, 1½ columns.
- SLIME CONCENTRATING AT THE PINGUICO MILL, MEXICO.** E. & M. J., vol. 85, p. 705. 2½ columns.  
 See also CYANIDING OF ORES.
- SLIME TREATMENT AT DOE RUN, MISSOURI.** E. & M. J., vol. 89, p. 611. 1 column.
- RECLAIMING ZINC-LEAD FINES.** By L. L. Wittich. M. & M., vol. 31, p. 131. 1 column. I.
- SLIMES TREATMENT OF TIN ORE IN THE CAPE COLONY MINES.** P. C. M. & M. Soc. S. A., vol. 8, p. 177. 1½ columns. I.
- MEASUREMENT OF PULP AND TAILING.** By W. J. Sharwood. Min. Mag., London, vol. 1, p. 226, 8 columns, I.; p. 297, 16 columns, D.  
 See also CONCENTRATORS, TABLES, BUDDLES, ETC.
- See also FINE CRUSHING BY MILLS.**  
**See also COST OF CYANIDING.**  
**See also CYANIDING GOLD, ETC., and COST OF MILLING.**
- Sand Treatment**
- SAND TREATMENT.** Min. & Sci. Press, vol. 98, p. 316. 1½ columns.
- TREATMENT OF SANDS AT MINAS DEL TAJO, SINALOA.** E. & M. J., vol. 89, p. 567. 2 columns.
- TREATMENT OF SANDS AT THE CONSOLIDATED MERCUR MINES.** E. & M. J., vol. 89, p. 1276. 1½ columns.
- TREATMENT OF SANDS AT THE PITTSBURG SILVER PEAK MILL, NEVADA.** M. & M., vol. 29, p. 570. 2 columns.
- See also CLASSIFIERS AND CLASSIFICATION and SLIMES AND THEIR TREATMENT.**  
 See also CYANIDING GOLD, ETC.
- Dry Concentration**
- THE HUNGARIAN DRY WASHER FOR TREATING DRY PLACERS.** Min. & Sci. Press, vol. 97, p. 360. 1 column. I.
- DRY-PLACER MACHINES.** By G. M. Peterson. Min. & Sci. Press, vol. 101, p. 639. 1½ columns.
- DRY-WASHING FOR PLACER-GOLD IN SONORA, MEXICO.** By J. V. Richards. T. A. I. M. E., vol. 41, p. 797. 6 pages. I.
- DRY PLACER MINING MACHINES.** By E. B. Wilson. M. & M., vol. 31, p. 589. 4½ columns. I.  
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- DRY-GOLD WASHERS.** M. & M., vol. 31, p. 229. 3 columns. I.
- THE BEHREND DRY CONCENTRATOR.** E. & M. J., vol. 85, p. 1294. 2 columns. I.  
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**Salt Making**

**SALT:** Its History, Occurrence and Manufacture. By A. A. Hayard. J. M. Soc. N. S., vol. 11, p. 99. 18 pages.

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**SALT-MAKING PROCESSES IN THE UNITED STATES.** By T. M. Chatard. U. S. G. S., 7th Ann. Rept., pp. 491-535. 1885-86. I.

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See also **METHODS OF MINING**, and **MINING THICK AND MASSIVE DEPOSITS**, also **COST OF MILLING**.

**Practice in Milling Ores**

**ORE DRESSING IN THE UNITED STATES AND MEXICO.** By H. A. Guess. E. & M. J., vol. 88, p. 864, 12 columns, D.; p. 966, 11 columns, I., D.

**PROGRESS AND PROBLEMS IN ORE DRESSING.** By C. De Kalb. Min. & Sci. Press, vol. 100, p. 54. 7 columns. I.

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**THE CONQUEROR TAILINGS PLANT.** E. & M. J., vol. 89, p. 668. 2 columns. I.

See also **DISPOSAL OF WASTE**.

**THE MECHANICAL PREPARATION OF ORES IN SARDINIA.** By E. Ferraris. T. A. I. M. E., vol. 39, p. 72. 25½ pages. I.

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See also **OCCURRENCE OF BARITE** and **REDUCTION OF ORES**.

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**LAKE SUPERIOR ORE-DRESSING PRACTICE.** By L. S. Austin. Min. & Sci. Press, vol. 96, p. 259. 3½ columns. I.

**CONCENTRATION AT THE BUTTE REDUCTION WORKS.** By A. H. Wethey. E. & M. J., vol. 88, p. 415. 3½ columns. I.

- EXPERIMENTAL MILL OF THE NEVADA CONSOLIDATED COPPER COMPANY.** By M. L. Requa. Min. & Sci. Press, vol. 97, p. 90. 9 columns. Tables.
- DRESSING OF ORES AT THE YELTA COPPER MINE, SOUTH AUSTRALIA.** T. Au. I. M. E., vol. 11, p. 99. 4 pages.
- PREPARATION OF DIAMONDS AT THE DE BEERS MINES.** P. C. M. & M. Soc. S. A., vol. 7, p. 228. 2½ columns.
- PROGRESS IN THE TREATMENT OF GOLD ORE.** By A. James. Min. & Sci. Press, vol. 96, p. 41. 3½ columns.
- TREATMENT OF THE BANKEI DEPOSITS, SOUTH AFRICA.** T. Au. I. M. E., vol. 3, p. 84. 5 pages. I.
- ANALYSIS OF MINE AND MILL PRACTICE ON THE RAND.** By E. M. Weston. E. & M. J., vol. 89, p. 169, 14 columns, I.; p. 267, 10½ columns, I.
- DESCRIPTION OF ORE TREATMENT AT THE GIANT MINE, HARTLEY DISTRICT, RHODESIA.** By R. C. H. Cooke. P. C. M. & M. Soc. S. A., vol. 9, p. 152. 8½ columns. I.
- THE TREATMENT OF THE GOLD ORES OF HOG MOUNTAIN, ALABAMA.** By T. H. Aldrich. T. A. I. M. E., vol. 39, p. 578. 6 pages.
- PROGRESS IN ORE TREATMENT AT KALGOORLIE.** By M. W. Von Bernewitz. Min. & Sci. Press, vol. 100, p. 926. 5½ columns.
- NOTES ON THE WAIHI ORE TREATMENT.** By R. Stokes. P. C. M. & M. Soc. S. A., vol. 8, p. 10, 8 columns, I.; p. 53, 3 columns; p. 121, 1 column; p. 209, ¾ column.
- THE TREATMENT OF THE AURIFEROUS SULPHIDE ORES OF KALGOORLIE.** By F. Moss. T. Au. I. M. E., vol. 8, pt. 1, p. 40. 27 pages.
- MILLING AND TREATMENT OF AURIFEROUS ORES IN NEW ZEALAND.** By H. A. Gordon. T. Au. I. M. E., vol. 9, p. 206. 18 pages.
- THE TREATMENT OF CASSILIS ORE, EAST GIPPSLAND, VICTORIA, AS CARRIED ON BY THE CASSILIS MINING COMPANY, N. L.** By W. Aplin. T. Au. I. M. E., vol. 9, p. 224. 10 pages. I. D.
- TREATMENT OF SULPHIDE ORES IN VICTORIA.** By S. Radcliff and J. Druermann. Min. & Sci. Press, vol. 99, p. 367. 3 columns.
- MILLING AT GRASS VALLEY AND NEVADA CITY.** By G. E. Wolcott. E. & M. J., vol. 87, p. 439. 10 columns. I.
- SCHEMES OF CONCENTRATION AT COBALT.** M. & M., vol. 31, p. 303. 9 columns. I.
- CONCENTRATION AT COBALT, ONTARIO.** By G. E. Saneton. M. & M., vol. 29, p. 200. 4½ columns. I.
- METHODS OF CONCENTRATION AT COBALT, ONTARIO.** By G. E. Saneton. J. C. M. I., vol. 11, p. 340. 8 pages.
- HYDROMETALLURGICAL OPERATIONS AT COBALT.** By J. Tyssowski. E. & M. J., vol. 90, p. 1253. 15½ columns. D.
- MILLING IN THE CRIPPLE CREEK DISTRICT, COLORADO.** By S. A. Worcester. E. & M. J., vol. 87, p. 956. 5½ columns.
- See also **WASHING COAL AND MINERAL PRACTICE AT THE CAMP BIRD MILL.** Min. & Sci. Press, vol. 97, p. 669. 1½ columns.
- SEPARATION OF MIXED SULPHIDES AT CHARCAS, SAN LUIS POTOSI.** By R. C. Canby. E. & M. J., vol. 85, p. 698. 5 columns.
- SOME FEATURES OF SILVER ORE TREATMENT IN MEXICO.** By W. A. Caldecott. P. C. M. & M. Soc. S. A., vol. 8, p. 203, 6½ columns; p. 266, 7 columns; p. 352, 2 columns; p. 384, 4 columns; vol. 19, p. 10, 7 columns; p. 97, 1½ columns.
- RIO PLATA MINE AND MILL, WESTERN CHIHUAHUA.** By H. J. Baron. E. & M. J., vol. 87, p. 147. 14 columns. I.

- MILLING GOLD AND SILVER ORES AT TAJO ROSARIO, MEXICO. T. A. I. M. E., vol. 41, p. 333. 5 pages. I.
- MILLING AND CYANIDE PRACTICE AT EL ORO, MEXICO. By C. T. Rice. E. & M. J., vol. 87, p. 683. 23 columns. I.
- THE DOS ESTRELLAS MILL. Min. & Sci. Press, vol. 96, p. 197. 3 columns. I.
- MILLING AND CYANIDE PRACTICE, SAN PROSPERO MILL, GUANAJUATO. By J. S. Butler. Min. & Sci. Press, vol. 97, p. 130. 5 columns. D.
- See also CYANIDING ORES.
- METHOD OF CONCENTRATION AT THE GRANADENA MINES, MEXICO. Min. & Sci. Press, vol. 97, p. 397. 3½ columns. Flow-sheet.
- SAN IGNACIO MINE AND MILL, CHIHUAHUA, MEXICO. By O. Perogallo. E. & M. J., vol. 88, p. 1263. 6½ columns. I.
- MILL OF THE MONTEZUMA MINES, COSTA RICA. E. & M. J., vol. 90, p. 715. 6 columns.
- THE SAN RAFAEL MILL AT PACHUCA. By M. R. Lamb. E. & M. J., vol. 86, p. 325. 3 columns.
- JESUS MARIA AND FLORES MILLS, GUANAJUATO. By C. T. Rice. E. & M. J., vol. 86, p. 615. 13 columns. I.
- HACIENDA BUBURON, AN OLD MEXICAN SILVER MILL. By M. R. Lamb. E. & M. J., vol. 86, p. 663. 6 columns. I.
- THE NEW ESPERANZA MILL AT EL ORO, MEXICO. By C. T. Rice. E. & M. J., vol. 86, p. 760. 5 columns. I.
- MINING AND MILLING AT STOCKTON, UTAH. By Robt. B. Brinsmade. E. & M. J., vol. 85, p. 611. 6 columns. I.
- BOSTON SUNSHINE MILL, UTAH. By G. W. Wood. Min. & Sci. Press, vol. 99, p. 295. 2½ columns. I.
- MILLS AND MILLING AT RAWHIDE, NEVADA. E. & M. J., vol. 87, p. 347. 4½ columns. I.
- WORKING OF ORES AT THE AUBURN MILL, NEVADA. Min. & Sci. Press, vol. 22, p. 248. 2½ columns.
- YELLOW JACKET MILL, COMSTOCK LODE. By W. Symmes. Min. & Sci. Press, vol. 97, p. 157. 3½ columns. I.
- THE BUTTERS SLIME-FILTER AT THE CYANIDE PLANT OF THE COMBINATION MINES COMPANY, GOLDFIELD, NEVADA. By M. R. Lamb. T. A. I. M. E., vol. 38, p. 200. 10 pages. I.
- See also CYANIDING OF ORES.
- THE GOLDFIELD CONSOLIDATED 600-TON MILL. By P. E. Barbour. E. & M. J., vol. 86, p. 467. 22½ columns. I.
- MILLING PRACTICE IN NEVADA GOLDFIELD REDUCTION WORKS. By E. S. Leaver. Min. & Sci. Press, vol. 97, p. 254. 2½ columns. I.
- TREATMENT OF SULPHIDE ORES AT GOLDFIELD, NEVADA: Milling Process. Min. & Sci. Press, vol. 96, p. 841. 8 columns. I. Flow-sheet.
- GOLDFIELD MILL IMPROVEMENTS. Min. & Sci. Press, vol. 99, p. 825. 1 column.
- EQUIPMENT AND PRACTICE AT FLORENCE-GOLDFIELD MILL. By H. G. Morris. E. & M. J., vol. 89, p. 365. 9½ columns. I.
- MILLING AT COMBINATION MILL, GOLDFIELD, NEVADA. By M. R. Lamb. M. & M., vol. 29, p. 209. 1 column. I.
- THE COMBINATION MINE. By E. A. Collins. Min. & Sci. Press, vol. 95, p. 397. 4½ columns, I.; p. 435, 6½ columns, I.
- CONCENTRATION PRACTICE AT THE DESERT MILL, MILLERS, NEVADA. Min. & Sci. Press, vol. 95, p. 494. 8½ columns. I.
- THE DESERT MILL, MILLERS, NEVADA. By A. R. Parsons. Min. & Sci. Press, vol. 95, p. 494. 8½ columns. I.

- MILLING PLANT OF THE MONTANA-TONOPAH MINING COMPANY.** By G. H. Rotherham. Min. & Sci. Press, vol. 97, p. 324.  $7\frac{1}{2}$  columns. I.
- TONOPAH EXTENSION MILL.** By J. G. Kirchen. Min. & Sci. Press, vol. 100, p. 522. 4 columns.
- NEW MILL OF THE TONOPAH EXTENSION MINING COMPANY.** E. & M. J., vol. 89, p. 1066. 3 columns. I.
- MILLING AT TONOPAH, NEVADA.** E. & M. J., vol. 87, p. 595. 6 columns. I.
- MINING AND REDUCTION OF ELY, NEVADA, ORES.** By R. L. Herrick. M. & M., vol. 29, p. 167.  $11\frac{1}{2}$  columns. I.
- PITTSBURG SILVER PEAK MILL, NEVADA.** By H. Hanson. M. & M., vol. 29, p. 569.  $8\frac{1}{2}$  columns. I.
- MECHANICAL TREATMENT OF GOLD ORE.** By W. J. Adams. Min. & Sci. Press, vol. 95, p. 374.  $1\frac{1}{2}$  columns.
- See also **AMALGAMATION.**
- IMPROVEMENTS IN THE HOMESTAKE MILL.** Min. & Sci. Press, vol. 95, p. 812. 1 column. I.
- SIMMER DEEP AND JUPITER REDUCTION WORKS.** By J. E. Thomas. Min. & Sci. Press, vol. 99, p. 396.  $6\frac{1}{2}$  columns. I.
- CONCENTRATION OF FLAKE GRAPHITE.** By F. D. Chester. E. & M. J., vol. 88, p. 824.  $3\frac{1}{2}$  columns.
- See also **OCCURRENCE OF GRAPHITE.**
- UTILIZATION OF IRON SANDS.** Min. & Sci. Press, vol. 20, p. 355. 1 column.
- See also **SAND TREATMENT.**
- TREATMENT OF THE BRUCE IRON ORE, ONTARIO.** J. C. M. I., vol. 10, p. 160. 2 pages.
- CONCENTRATION OF MESABI ORE.** By H. H. Stock. M. & M., vol. 29, p. 97.  $3\frac{1}{2}$  columns. I.
- MILLING PRACTICE AT THE EUGENE MINE, KOOTENAY, BRITISH COLUMBIA.** E. & M. J., vol. 89, p. 422. 4 columns. I. Flow-sheet.
- MINE AND MILL OF LE ROI NO. 2, LTD., ROSSLAND, BRITISH COLUMBIA.** By R. H. Allen. E. & M. J., vol. 89, p. 176.  $5\frac{1}{2}$  columns. I.
- TABLE CONCENTRATION IN THE COEUR D'ALENE DISTRICT.** Min. Mag., London, vol. 2, p. 444. 4 columns. I.
- MILLING OF LEAD-SILVER ORE.** By G. Caetani. Min. Mag., London, vol. 2, p. 361, 14 columns, I.; p. 441, 12 columns, I.; p. 48, 16 columns, I.
- ORE DRESSING IN THE COEUR D'ALENE DISTRICT.** By E. S. Wiard. E. & M. J., vol. 88, p. 1055,  $13\frac{1}{2}$  columns, I.; p. 1104, 16 columns, I.; p. 1205, 21 columns, I.
- TREATMENT OF ORE IN THE COEUR D'ALENE LEAD REGION.** Min. & Sci. Press, vol. 96, p. 626. 3 columns. I.
- MILLING IN THE COEUR D'ALENE.** By G. Huston. Min. & Sci. Press, vol. 96, p. 232.  $1\frac{1}{2}$  columns.
- NEW CONCENTRATOR OF THE BUNKER HILL AND SULLIVAN.** By G. Caetani. Min. & Sci. Press, vol. 100, p. 120.  $5\frac{1}{2}$  columns. I.
- ORE DRESSING IN THE COEUR D'ALENE DISTRICT.** By E. S. Wiard. E. & M. J., vol. 89, p. 20, 23 columns, I.; p. 375,  $7\frac{1}{2}$  columns, I.; p. 514,  $13\frac{1}{2}$  columns, I.; p. 570,  $7\frac{1}{2}$  columns; p. 822, 10 columns; p. 875,  $7\frac{1}{2}$  columns, I.; p. 967,  $8\frac{1}{2}$  columns, I.
- CONCENTRATING DIFFICULT LEAD ORES AT BROKEN HILL, NEW SOUTH WALES.** By G. W. Williams. E. & M. J., vol. 87, p. 939. 6 columns.
- ORE TREATMENT AT THE BROKEN HILL PROPRIETARY MINE.** By G. D. Delprat. T. Au. I. M. E., vol. 12, p. 1. 28 pages. I.
- CONCENTRATION AT THE BLUE BELL MINE, BRITISH COLUMBIA.** E. & M. J., vol. 88, p. 785.  $2\frac{1}{2}$  columns.
- THE AMERICAN MILL AT ORONOOGO, JOPLIN DISTRICT.** By Doss Brittain. E. & M. J., vol. 85, p. 1039.  $6\frac{1}{2}$  columns. I.

- IMPROVEMENTS IN THE ORONOGO CIRCLE MILL No. 5.** By O. Ruhl. E. & M. J., vol. 86, p. 993. 5 columns. I.
- RECLAIMING ZINC AND LEAD ORES.** By L. L. Wittich. M. & M., vol. 30, p. 503. 4½ columns. I.
- ORE DRESSING IN THE JOPLIN DISTRICT.** M. & M., vol. 30, p. 383. 3½ columns. I.
- SOUTHEAST MISSOURI MINING.** By S. S. Clarke. Min. & Sci. Press, vol. 100, p. 528. 2 columns.
- MILLING AT DOE RUN, SOUTHEAST MISSOURI.** E. & M. J., vol. 89, p. 610. 2 columns. I.
- THE MINING AND MILLING OF SILVER-LEAD AND ZINC ORES AT PIERREFITTE MINES, FRANCE.** By W. W. Van Ness T. A. I. M. E., vol. 39, p. 369. 22½ pages. I.
- CONCENTRATION OF SILVER-LEAD ORES.** By V. F. S. Low. T. Au. I. M. E., vol. 10, p. 197. 16 pages. I.
- CONCENTRATION OF LEAD-SILVER ORES.** By V. F. S. Low. T. Au. I. M. E., vol. 11, p. 164. 12 pages. I.
- DRESSING OF ORES: A Freiberg Process.** Min. & Sci. Press, vol. 20, p. 2, 1½ columns; p. 66, 1½ columns, I.; p. 130, 1 column, I.
- WET CONCENTRATION AT MIDVALE, UTAH.** By L. A. Palmer. M. & M., vol. 30, p. 517. 5½ columns. I.
- CONCENTRATION AT FREIBERG, GERMANY.** E. & M. J., vol. 87, p. 988. 1½ columns.
- METHOD OF MILLING LEAD ORES AT THE CUMBERLAND MINES, ENGLAND.** E. & M. J., vol. 85, p. 299. 2 columns. I.
- MILLING FLORIDA PHOSPHATES.** E. & M. J., vol. 87, p. 490. 8 columns. I.
- See also OCCURRENCE OF PHOSPHATES.
- TIN-DRESSING.** By H. W. Hutchins. Min. Mag., London, vol. 2, p. 295. 3 columns.
- NOTES ON TIN DRESSING.** By H. W. Hutchins. T. I. M. & M., vol. 18, p. 69. 38½ pages. I.
- NOTES ON TIN ORE DRESSING AT SOUTH CROFTY.** E. & M. J., vol. 87, p. 651. 4 columns.
- TIN-DRESSING AT STANLEY HILLS, NORTH QUEENSLAND.** By W. L. Cleland. T. Au. I. M. E., vol. 12, p. 154. 10 pages. I.
- CONCENTRATION OF TIN ORES AT CHOROLQUE, BOLIVIA.** Min. Mag., vol. 4, p. 214. 2 columns. D.
- TIN MINING AND MILLING IN THE BOLIVIAN ANDES.** By G. W. Dean. E. & M. J., vol. 90, p. 1053. 5½ columns. I.
- ZINC MINING IN NEW JERSEY.** By H. B. Kümmel. E. & M. J., vol. 87, p. 11. 1½ columns.
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- FORMS FOR CONCRETE.** By J. D. Stevenson. P. E. Soc. W. Pa., vol. 26, p. 270. 46 pages. I.
- HOW TO PREVENT FAILURE IN CONCRETE CONSTRUCTION.** By W. Michaelis. J. W. Soc. E., vol. 12, p. 455. 18 pages.
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- CONCRETE LININGS IN SHAFT SINKING.** By R. H. Rowland. E. & M. J., vol. 88, p. 359. 7 columns. I.
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- BRIER HILL CONCRETE-LINED SHAFT, VULCAN, MICHIGAN.** By W. Kelly. E. & M. J., vol. 89, p. 970. 6 columns. I.
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- CONCRETE SHAFTS THROUGH QUICKSAND.** By F. W. Adgate. M. & M., vol. 30, p. 271. 5½ columns. I.
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**CONVEYOR SYSTEM AT THE NEW KLEINFONTEIN MINE.** By E. J. Way. E. & M. J., vol. 85, p. 888.  $13\frac{1}{4}$  columns. D.

**UNDERGROUND CONVEYORS AT THE KLEINFONTEIN MINE.** By E. J. Way. E. & M. J., vol. 86, p. 715.  $3\frac{1}{2}$  columns.

**CONVEYORS IN COAL MINES.** E. & M. J., vol. 90, p. 1069. 2 columns. I.

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- COMPARATIVE COST OF WORKING AN 18-IN. COAL-SEAM: When Bottom-Cutting Is Used as Gobbing; and Bottom Cutting Is Used as Brick Material. T. I. M. E., vol. 15, p. 61. Table.
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- COST OF MINING AT DANVILLE, PENNSYLVANIA. T. A. I. M. E., vol. 20, p. 384.
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- COST OF MINING OPERATIONS IN INDIA (COAL). T. I. M. E., vol. 22, p. 191.
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### Cost of Operating Elevators and Conveyors

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**COST OF IRON-PIPE AND WOODEN-BOX CULVERTS.** R. R. Construction, Webb, p. 400. Table.

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## 94 COST OF MINING, MILLING, METALLURGY, ETC.

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COST OF VARIOUS FORMS OF AIR COMPRESSORS. M. & M., vol. 27, p. 102. Table.

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**Cost of Producing Various Materials**

**PERCENTAGE SUBDIVISION OF COST OF PRODUCING MINERAL:** Cost per Ton; Mining Plant, etc.; Labor, Supplies, etc.; Timber, Maintaining Workings etc.; Milling, etc.; and Management, etc. T. A. I. M. E., California Mines and Minerals, p. 64.

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**COST OF PRODUCING CHINA CLAY.** E. & M. J., vol. 79, p. 1080.

**COST OF PRODUCTION AND PROFITS PER TON COAL, BELGIUM.** E. & M. J., vol. 74, p. 706.

**COST OF MINING ANTHRACITE COAL.** E. & M. J., vol. 77, p. 592. 1 column.

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**COST OF PRODUCING COPPER PER TON.** E. & M. J., vol. 30, p. 108. Table.

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**WHAT IS THE COST OF PRODUCING GOLD AND SILVER?** E. & M. J., vol. 51, p. 437.  $\frac{1}{2}$  column.

**COST OF PRODUCTION IN THE REPUBLIC DISTRICT, WASHINGTON.** E. & M. J., vol. 74, p. 74.

See also **THE DEVELOPMENT AND PRODUCTION OF PRECIOUS METAL MINING.**

**COST OF PRODUCING OLD RANGE IRON (BESSEMER) ORES.** E. & M. J., vol. 83, p. 717.

**COST OF PRODUCTION OF IRON.** T. A. I. M. E., vol. 17, p. 123.

**COST OF PRODUCTION OF ORE (IRON) IN LAKE SUPERIOR REGION.** M. & M., vol. 19, p. 413.

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**COST OF PRODUCING BRAZILIAN MICA.** T. I. M. & M., vol. 12, p. 357. Table.

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WHERE SILVER IS PRODUCED AT A COST OF 23 CENTS PER OUNCE. Min. & Sci. Press, vol. 77, p. 451. ½ column.

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COST OF SULPHUR PRODUCTION IN SICILY. E. & M. J., vol. 20, p. 408.

### Cost of Preserving Mine Timber

COST OF PRESERVING TIMBERS BY VARIOUS METHODS. R. R. Construction, Webb, p. 229. 2 pages.

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COST OF CHURN AND DIAMOND DRILLING IN MISSOURI. E. & M. J., vol. 80, p. 244.

COST OF DIAMOND DRILL PROSPECTING UNDERGROUND AT THE ESPERANZA MINE, EL ORO, MEXICO. Min. & Sci. Press, vol. 99, p. 825. Table.

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### Cost of Pumping and Bailing

COMPARATIVE COST OF RAISING WATER BY DIFFERENT SYSTEMS IN THE TRANSVAAL. T. I. M. & M., vol. 16, p. 230. Table.

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COST OF PUMPING PLANT AND RUNNING EXPENSES AT SIERRA MOJADA, MEXICO. T. A. I. M. E., vol. 15, p. 570.

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**COST OF PUMPING WITH COMPRESSED AIR.** T. F. C. M. I., vol. 2, p. 229.

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**COST OF CORNISH PUMP WORK ON THE RAND.** Gold Mines of the Rand, p. 172. Table; p. 259.

**COST OF PUMPING AT GALENA, KANSAS:** Cornish and Steam Pump Work. Univ. Geol. Sur. of Kans., vol. 8, p. 346. 3 pages.

See also **CORNISH PUMPS.**

**COST OF PUMPING AT THE SHORT MOUNTAIN COLLIERY OF THE LYKENS VALLEY COAL COMPANY IN DAUPHIN COUNTY, PENNSYLVANIA.** By R. V. Norris. M. & M., Vol. 23, p. 413. 3 columns.

**COST OF PUMPING BY ELECTRICITY.** E. & M. J., vol. 47, p. 545. Table.

**COST OF PUMPING BY STEAM PUMPS.** Miner's Pocket Book, Lock, pp. 330, 331, 332. Table.

**COST OF ELECTRICAL PUMP WORK.** Miner's Pocket Book, Lock, p. 333. Table.

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**EXPENSE OF PUMPING WATER BY WINDMILL.** E. & M. J., vol. 33, p. 260. Tables.

**THE COST OF BAILING.** Min. & Sci. Press, vol. 90, p. 201. 2 columns.

**COST OF PUMPING AND BAILING IN THE DEEP LEVEL MINES OF THE RAND.** M. & M., vol. 26, p. 475. Table.

**COST OF WINDING WATER.** T. F. I. M. E., vol. 13, p. 81.

See also **BAILING WATER, and PUMPS FOR MINE USE.**

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**COST OF STAMP-MILLING.** T. A. I. M. E., vol. 23, p. 567.

**COST OF STAMP MILLING.** Min. & Sci. Press, vol. 81, p. 560. Table.

**COST PER TON OF ROCK STAMPED:** Iron Ore. T. A. I. M. E., vol. 21, pp. 548, 549.

**ECONOMY IN AUTOMATIC ORE FEEDERS.** Min. & Sci. Press, vol. 87, p. 19.

**COST OF HAND VS. MACHINE FEEDING STAMP BATTERIES, GILPIN COUNTY, COLORADO.** E. & M. J., vol. 54, p. 246.

**COMPARATIVE COST OF STAMPS AND ROLLS.** T. I. M. & M., vol. 7, p. 141. Tables.

**COST OF STAMPING IN AUSTRALIA.** E. & M. J., vol. 36, p. 182.  $\frac{1}{2}$  column.

**COST OF ERECTING A STAMP MILL —20 STAMPS, SOUTH AFRICA.** Min. & Sci. Press, vol. 90, p. 105. Table.

**COMPARISON OF CURRENT COSTS PER TON OPERATING WITH 10 AND 20 STAMPS.** Min. & Sci. Press, vol. 76, p. 177. Table.

**COST OF SHOES AND DIES OF DIFFERENT MATERIAL.** Min. & Sci. Press, vol. 89, p. 224.

**COST AND WORKING-RESULTS OF SHOES AND DIES OF DIFFERENT MATERIALS.** T. A. I. M. E., vol. 35, p. 594. Table.

See also **STAMP MILL PRACTICE.**

**COST OF WEAR OF STAMPS AND ROLLS.** E. & M. J., vol. 37, p. 461.

**COST OF WEAR OF ROLL SHELLS AND PULVERIZERS ON THE RAND.** T. I. M. & M., vol. 7, p. 135. Table.

See also **ROLLS: Construction and Operation.**

**COST OF DRY CRUSHING.** Gold Min. & Mill. W. Aus., p. 247.

**COST OF DRY CRUSHING MILLS.** J. C. & M. Soc., S. A., vol. 1, p. 815.

**Costs of DRY CRUSHING.** Gold Min. & Mill. W. Aus., pp. 245, 248. Table.

## 100 COST OF MINING, MILLING, METALLURGY, ETC.

- COST OF MILL SPARES: Dies, Shoes, Cams, Cam-Shafts, Stems, etc. Gold Min. & Mill. W. Aus., p. 456. Table.
- COST OF FINE GRINDING IN WESTERN AUSTRALIA. By W. Broodbridge. Min. Mag., Feb., 1905, p. 175.
- COST OF OPERATING HUNTINGTON MILL. Gold Min. & Mill. W. Aus., pp. 220, 222. Tables.
- COST OF CRUSHING WITH BALL MILL. Gold Min. & Mill. W. Aus., p. 247.
- COST OF OPERATING TUBE MILLS ON GOLD ORES. Min. Mag., vol. 11, pp. 411, 412, etc.
- COST OF GRINDING BY TUBE-MILLS AT EL ORO, MEXICO. T. A. I. M. E., vol. 37, p. 23. 1 page. Tables.
- COST OF TUBE MILL OPERATION. P. C. M. & M. Soc. S. A., vol. 8, p. 12. 1 column.
- COST OF REDUCING BY TUBE-MILL. P. C. M. & M. Soc. S. A., vol. 6, p. 314. Note.
- COST OF TUBE MILL WORK AT THE COMBINATION MINE, GOLDFIELD, NEVADA. M. & M., vol. 27, pp. 298 and 299.  $\frac{1}{2}$  column.
- COST OF TUBE-MILL LINING. Min. & Sci. Press, vol. 93, p. 108. Table.
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- COST OF CRUSHING, WESTERN AUSTRALIA. Gold Min. & Mill. W. Aus., p. 248.
- COMMUNICATION ON THE COST OF CRUSHING HARD HEMATITES. T. L. S. M. I., vol. 3, p. 93. 1 page.
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- COST OF BREAKING ORE BY MACHINERY WITH A 100-TON CAPACITY PLANT. E. & M. J., vol. 39, p. 296. Table.
- COST OF REDUCTION OF ORE: Nevada and California. Min. & Sci. Press, vol. 18, p. 345. Table.
- COST OF REDUCTION OF GOLD-ZINC SLIMES. Min. & Sci. Press, vol. 75, p. 123. Table.
- COST OF CRUSHING AND SEPARATING COPPER ORES AT THE ATLANTIC MINE, MICHIGAN. E. & M. J., vol. 55, p. 53.  $\frac{1}{2}$  column.
- COST OF CRUSHING OXIDIZED ORE AT MOUNT MORGAN IN BALL MILLS AND ROLLS. E. & M. J., vol. 74, p. 50. Table.
- COST OF REDUCTION OF GOLD AND SILVER ORES. Min. & Sci. Press, vol. 30, p. 414.
- COST OF REDUCTION IN A SILVER-MILL. T. A. I. M. E., vol. 11, p. 100.
- COST OF LOSS OF COAL BY BREAKAGE IN STORAGE BINS. E. & M. J., vol. 84, p. 645.
- See also THE REDUCTION OF ORES, ETC.
- ### Cost of Rope
- COST OF LANG'S LAY WINDING-ROPES. P. C. M. & M. Soc. S. A., vol. 7, p. 189. Table.
- COST OF WIRE ROPE FOR TON COAL HAULED. Second Geol. Sur. Pa., A. C., p. 261. Table.
- See also ROPES, CHAINS, COUPLINGS, ETC., and KINDS OF WIRE ROPES, ETC.
- ### Charges, Royalties, Taxes, etc.
- MINT CHARGES. Min. & Sci. Press, vol. 90, p. 409. Table.
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- ROYALTIES PAID BY LEASES AT GOLDFIELD, NEVADA. Min. & Sci. Press, vol. 90, p. 151.
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**MEXICAN TAXATION ON BULLION:**  
Costs and Charges. E. & M. J., vol. 75, p. 410. 1 column.

**COST OF OBTAINING A MINING CONCESSION IN MEXICO.** Min. & Sci. Press, vol. 88, p. 92.

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**COST OF SAMPLING AT HAILEY, IDAHO.** M. & M., vol. 22, p. 204. Table.

**COST OF SAMPLING ORES BY MACHINES.** T. A. I. M. E., vol. 20, p. 440.

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### Cost of Shaft Sinking

**COST OF SHAFT SINKING.** E. & M. J., vol. 83, p. 387. 1½ columns.

**COST OF SHAFT-SINKING (CIRCULAR SHAFT).** E. & M. J., vol. 81, p. 1198.

**COST OF SINKING THROUGH MODERATELY HARD MATERIAL:** In Coal Mines. M. & M., vol. 24, p. 144.

**COST OF SHAFT-SINKING WITH ROCK-DRILLS.** T. F. I. M. E., vol. 8, p. 20.

**COST OF SINKING CIRCULAR SHAFT.** T. I. M. E., vol. 38, p. 28. Table.

**COST OF SHAFT-SINKING WITH SMALL MACHINES.** Min. & Sci. Press, vol. 93, p. 448. Table.

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**RATE OF SHAFT SINKING AND COST.** The Witwatersrand Goldfields, p. 189. 5 pages.

**SPEED AND COST OF SINKING SHAFTS.** Second Geol. Sur. Pa., A. C., p. 73. 1 page.

**COST OF SINKING.** E. & M. J., vol. 47, p. 11. Table.

**ESTIMATED COST OF SINKING SHAFT.** M. & M., vol. 30, p. 256. 2 columns.

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**ESTIMATED COST OF SHAFT SINKING.** P. C. M. & M. Soc. S. A., vol. 10, p. 412. Tables.

**COST OF SHAFT SINKING.** M. & M., vol. 29, p. 518. ½ column. Tables.

**COST OF SINKING AN INCLINED SHAFT.** M. & M., vol. 31, p. 728. Table.

**COST OF CEMENTATION IN SHAFT-SINKING.** E. & M. J., vol. 86, p. 222. Table.

**COST OF SHAFT SINKING BY CEMENTATION AND FREEZING SYSTEMS.** T. I. M. E., vol. 31, p. 122. Table.

**COST OF SHAFT SINKING BY THE KIND-CHAUDRON METHOD, ENGLAND.** P. C. M., vol. 2, pp. 201, 204, 205, 206. Tables.

**RECORD AND COST OF SHAFT SINKING BY THE KIND-CHAUDRON METHOD.** E. & M. J., vol. 81, p. 862.

**COST OF SINKING DROP SHAFT THROUGH 35-FOOT STRATUM OF QUICKSAND.** E. & M. J., vol. 81, p. 134. Table.

**COST OF SINKING THROUGH LOOSE MATERIALS, EUROPE.** P. C. M., vol. 2, pp. 210, 212, 217. Tables.

**COST BY FREEZING PROCESS.** P. C. M., vol. 2, pp. 227, 228, 230.

**COST OF SINKING THROUGH SAND AND GRAVEL BY USE OF TUBBINGS, ENGLAND.** T. I. M. E., vol. 38, p. 320. Table.

**COST OF SINKING A SHAFT WITH IRON LININGS.** E. & M. J., vol. 20, p. 574. Table.

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**COST OF A SINKING PLANT FOR A DEPTH OF 500 FEET.** M. & M., vol. 29, p. 462. Table.

**COMPARATIVE COSTS OF HAND AND MACHINE WORK IN SHAFT SINKING ON THE RAND.** Witwatersrand Goldfields, pp. 194, 195, 196. Table.

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- COST OF SHAFT SINKING ON THE RAND. T. N. S. I. M. & M. E., vol. 10, p. 135.
- NOTE ON THE COST AND SPEED OF SINKING THE EAST SHAFT OF THE NEW KLEINFONTEIN COMPANY, BENONI, SOUTH AFRICA. By E. J. Way. T. A. I. M. E., vol. 35, p. 397. 2 pages.
- COST OF SHAFT SINKING ON THE RAND. T. I. M. & M., vol. 15, pp. 345, 363. Tables.
- COST OF SHAFT SINKING ON THE RAND. Witwatersrand Goldfields, pp. 189, 190, 191, 192, 193, 194. Tables.
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- COST OF SINKING THE EAST SHAFT OF THE NEW KLEINFONTEIN COMPANY, LIMITED. By E. J. Way. T. I. M. & M., vol. 13, p. 102. 10 pages.
- VARIATION IN COST OF SINKING A 3900-FOOT SHAFT AT THE CINDERELLA DEEP. E. & M. J., vol. 82, p. 1060. Table.
- SPEED AND COST OF SHAFT SINKING IN WESTERN AUSTRALIA. Gold Min. & Mill., W. Aus., p. 165. 3 pages.
- COST OF RAISING AND SINKING IN NEW SOUTH WALES. T. I. M. & M., vol. 7, p. 151. Table.
- COST OF SHAFT SINKING AT THE VICTORIA MINE, BENDIGO, AUSTRALIA: the Deepest Gold Mine in the World, 1906. Min. & Sci. Press, vol. 93, p. 503. ½ column.
- COST OF SHAFT SINKING, SUTTER CREEK, CALIFORNIA. Min. & Sci. Press, vol. 84, p. 35. Table.
- COST OF SHAFT SINKING, LINCOLN MINE, CALIFORNIA. Min. & Sci. Press, vol. 86, p. 25. Table.
- COST OF SHAFT SINKING ON THE MOTHER LODE, CALIFORNIA. Min. & Sci. Press, vol. 93, p. 683.
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- COST OF SHAFT SINKING, CENTRE STAR MINE COMPANY, BRITISH COLUMBIA: Including Compressed Air, Drill Fittings and Labor. Miner's Pocket Book, Lock, p. 178. Table.
- COST OF SHAFT SINKING: Transvaal, South Africa. Miner's Pocket Book, Lock, pp. 208, 209, 210. Table.
- COST OF SINKING DOMINION NO. 1 SHAFT. J. M. Soc. N. S., vol. 3, p. 111. Table.
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- COST OF SHAFT SINKING TIN MINES, MALAY PENINSULA. T. I. M. & M., vol. 7, p. 14.
- COST OF SHAFT SINKING IN THE TIN MINES OF THE MALAY PENINSULA. Tin Deposits of the World, p. 58.

**COST OF SHAFT SINKING AT THE EL ORO MINES, MEXICO.** Min. & Sci. Press, vol. 100, p. 519. Tables.

**COST OF SINKING A MEXICAN SHAFT.** M. & M., vol. 31, p. 275.  $\frac{1}{4}$  column. Table.

**COST OF SHAFT SINKING:** In an American Copper Mine. Min. & Sci. Press, vol. 85, p. 9. Table.

**COST OF SHAFT SINKING IN RANDOLPH COUNTY, MISSOURI.** E. & M. J., vol. 86, p. 6.  $1\frac{1}{2}$  columns.

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**COST OF SHAFT SINKING AT BASIN, MONTANA.** E. & M. J., vol. 79, p. 1005. Table.

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**COST OF SHAFT SINKING AT THE COMBINATION MINE.** Min. & Sci. Press, vol. 95, p. 436. Table.

**COST OF SHAFT SINKING IN WISCONSIN ZINC DISTRICT.** E. & M. J., vol. 81, pp. 1233 and 1234. Table.

**COST OF SHAFT SINKING IN WISCONSIN ZINC FIELDS.** E. & M. J., vol. 81, p. 1234. Tables.

**COST OF SHAFT SINKING IN THE POCOHONTAS COAL FIELD.** M. & M., vol. 27, p. 283. Table.

**COST OF SHAFT SINKING IN THE PENNSYLVANIA ANTHRACITE FIELDS.** The Anthracite Coal Industry, Roberts, p. 25. 1 page.

**COST OF SHAFT SINKING IN WESTERN PENNSYLVANIA.** M. & M., vol. 30, p. 128. Table.

**COST OF SINKING AND CRIBBING THE ATCHISON DEEP COAL SHAFT, KANSAS.** E. & M. J., vol. 74, p. 109.

**COST OF COLLIERY SINKING AND EQUIPMENT IN BELGIUM.** T. I. M. E., vol. 31, p. 698. Table.

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**COST OF COMPRESSED AIR MINE SIGNALING.** Min. & Sci. Press, vol. 85, p. 220. Table.

**COST OF INSTALLATION OF COMPRESSED AIR SIGNALING.** J. C. M. I., vol. 6, p. 167. Tables.

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**COST OF SCREENING AND CLEANING COAL.** T. F. I. M. E., vol. 1, p. 93.

**COST OF SCREENING AND BANKING COAL, ENGLAND.** T. N. S. I. M. & M. E., vol. 10, p. 256. Table.

**COST OF SCREEN CONSTRUCTION.** T. N. S. I. M. & M. E., vol. 10. p. 258. Tables.

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**ADVANTAGES OF HAND SORTING:** Costs. E. & M. J., vol. 81, p. 1101.

**COST OF SORTING BY HAND:** Zinc Ores. Rept. Zinc Comm., Canada, p. 79.  $1\frac{1}{4}$  pages.

**SAVING DUE TO SORTING AT THE RAND MINES.** Gold Mines of the Rand, p. 156. Table.

**COST OF HAND SORTING ON THE RAND.** E. & M. J., vol. 88, p. 1069. Table.

**COST OF ORE SORTING, SOUTH AFRICA.** Sch. Mines Quart., vol. 21, p. 24.

**COST OF SORTING AND CRUSHING ON THE RAND.** Gold Mines of the Rand, p. 260.

**COST OF SORTING ORE AT THE HECLA MINE, COEUR D'ALENE DISTRICT.** E. & M. J., vol. 88, p. 1106. Table.

**COST OF HAND SORTING VS. MILLING:** Comparative Costs. Min. & Sci. Press, vol. 88, p. 41. Table.

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**COST OF STOPING.** P. C. M. & M. Soc. S. A., vol. 7, p. 5. 5 columns. Tables.

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**COST OF STOPING, SOUTH AFRICA.** E. & M. J., vol. 75, p. 597.

**COST OF STOPING IN THE WHITE BEAR MINE.** J. C. M. I., vol. 11, p. 535. Table.

**COST OF STOPING IN VEINS OF VARIOUS WIDTHS.** Min. & Sci. Press, vol. 85, p. 322.

**COST OF STOPING IN WESTERN AUSTRALIA.** Gold Min. & Mill. W. Aus., pp. 199, 204, 205, 206, 207, 208. Tables.

**COST OF STOPING IN WESTERN AUSTRALIAN MINES.** Gold Min. & Mill. W. Aus., p. 507.

**COST OF STOPING AT THE GOLDEN HORSESHOE, WESTERN AUSTRALIA.** Gold Min. & Mill. W. Aus., p. 616. Table.

**COST OF STOPING AT GALENA, KANSAS.** Univ. Geol. Sur. of Kansas, vol. 8, p. 343. 1 page.

**COST OF DRIFTING AND STOPING BY HAND AND MACHINES IN COPPER MINES.** Min. & Sci. Press, vol. 48, p. 304.  $\frac{1}{2}$  column.

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**COST OF STOPING IN TIN MINES, MALAY PENINSULA.** Tin Deposits of the World, p. 58.

**COST OF STOPING AT THE ESPERANZA MINE, MEXICO.** Min. & Sci. Press, vol. 99, p. 846. 2 columns. Table.

**COST COMPARISON BETWEEN STRIPPING NARROW REEFS AND STOPING THEM WITH WASTE.** E. & M. J., vol. 76, p. 883. 1 column.

**APPROXIMATE YIELD AND COST OF STOPING PER TON OF ORE BROKEN.** Min. & Sci. Press, vol. 71, p. 302. Table.

**COST OF STOPING IN THE TIN MINES, MALAY PENINSULA.** T. I. M. & M., vol. 7, pp. 13 and 14.

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**COST OF STEAM SHOVEL MINING.** E. & M. J., vol. 84, p. 439. 1 column.

**COST OF STRIPPING CLINTON IRON ORE IN NEW YORK.** E. & M. J., vol. 86, p. 1152.  $\frac{1}{2}$  column.

**COST OF MINING AND STRIPPING IRON ORE.** E. & M. J., vol. 85, p. 115.  $\frac{1}{2}$  column.

**COST OF STRIPPING IRON ORE WITH STEAM SHOVEL.** T. L. S. M. I., vol. 10, p. 153. Tables.

**COST OF STRIPPING ANTHRACITE COAL.** The Anthracite Coal Industry, Roberts, p. 21. 1 page.

**COST OF STRIPPING TOP DIRT BY STEAM SHOVEL AT OROVILLE, CALIFORNIA, IN AURIFEROUS GRAVEL DREDGING.** E. & M. J., vol. 81, p. 220.

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### Cost of Supplies

**COST OF MINE SUPPLIES:** Timber, Coal, Etc. Min. & Sci. Press, vol. 52, p. 256.  $\frac{1}{2}$  column.

**COST OF SUPPLIES AT GOLDFIELD, NEVADA.** E. & M. J., vol. 82, p. 342.

**COST OF SUPPLIES AT TONOPAH, NEVADA.** E. & M. J., vol. 82, p. 107.

**MINING SUPPLIES AT MELBOURNE, AUSTRALIA.** T. I. M. & M., vol. 7, p. 111.  $2\frac{1}{2}$  pages.

**COST OF MINING AND MILLING SUPPLIES IN RHODESIA.** Min. Mag., vol. 13, p. 7. Table.

See also **COST OF MINE AND MILL CONSTRUCTION.**

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**COST OF TIMBER AND TIMBERING.** M. & M., vol. 25, p. 458. Table.

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**COST OF MINE TIMBERING.** Min. & Sci. Press, vol. 88, p. 127. Tables.

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- ESTIMATION OF COST IN CONNECTION WITH TIMBERING. T. Au. I. M. E., vol. 7, p. 84. 10 pages.
- COST OF TIMBERING IN THE SOFT HEMATITE ORES OF FURNESS, ENGLAND. T. F. I. M. E., vol. 8, p. 49.
- RELATIVE COST OF MAINTAINING THE TIMBER IN ANTHRACITE MINES, PENNSYLVANIA. The Anthracite Coal Industry, Roberts, p. 29.
- COST OF TIMBERING AT GALENA, KANSAS: Shaft Cribbing; Drift Timbering; and Placing Cogs. Univ. Geol. Sur. of Kansas, vol. 8, p. 344. 2 pages.
- COST OF TIMBER IN MEXICO. T. A. I. M. E., vol. 35, p. 24.
- COST OF MINE TIMBER ON THE RAND —1902. Witwatersrand Goldfields, p. 458. Table.
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- COST OF TIMBERING IN WESTERN AUSTRALIAN GOLD MINES. Gold Min. & Mill. W. Aus., pp. 178, 214.  $\frac{1}{2}$  page.
- COST OF DRAWING CHOCKS IN LONGWALL. Coll. Working and Management, p. 94.
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- COST OF PIGSTY SUPPORT IN MINES. P. C. M. & M. Soc. S. A., vol. 7, p. 367.  $\frac{1}{2}$  column.
- STOPEs: Costs of Stuffed and Filled. E. & M. J., vol. 84, p. 1005. Table.
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- PRICE OF ROUND TIMBER AND LAGGING IN THE WEST. Min. & Sci. Press, vol. 92, p. 82.
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APPROXIMATE PRICE LIST OF WIRE-ROPE TRAMWAYS ON THE ENDLESS ROPE SYSTEM. Aerial or Wire-Rope Tramways, p. 194. Table.

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- NOTE ON THE COST OF IRON RAILS AS MADE IN 1866 IN A LEADING ENGLISH RAILROAD COMPANY'S ROLLING MILL. By P. Barnes. T. A. I. M. E., vol. 6, p. 524.
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- COST OF LAYING MINE TRACK. E. & M. J., vol. 86, p. 135.  $1\frac{1}{2}$  columns.
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- COST OF TRACK LAYING.** M. & M., vol. 25, p. 458. Table.
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#### Cost of Washing Coal and Ores

**COST OF COAL-WASHING WITH THE LÜHRIG SYSTEM.** T. F. I. M. E., vol. 7, p. 399.

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**COST OF WATER FOR KIMBERLEY DIAMOND MINES.** E. & M. J., vol. 76, p. 237.

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**RATE OF CHARGE FOR WATER, VICTORIA MINING DISTRICTS.** Min. & Sci. Press, vol. 21, p. 14.

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#### DAMS FOR MINING PURPOSES

##### Stresses in Dams, Their Stability and Other Data

**MASONRY DAM FORMULAS.** By O. L. Brodie. Sch. Mines Quart., vol. 29, p. 241. 33 pages. I.

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##### Description of Dams and Their Construction

**SLAG-DAMS.** Min. & Sci. Press, vol. 95, p. 553. 2 columns. I.

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**NOTES ON THE BELUBULA DAM.** By O. Schulze. T. Au. I. M. E., vol. 4, p. 160. 12 pages. I.

**A COLORADO MOUNTAIN RESERVOIR.** By R. M. Hosea. J. W. Soc. E., vol. 12, p. 495.  $19\frac{1}{2}$  pages. I.

**THE CHEW RESERVOIR OF THE ASHTON-UNDERLYNE, STALYBRIDGE, AND DUKINFIELD DISTRICT WATERWORKS.** By A. L. Mellor. T. I. M. E., vol. 38, p. 229. 4 pages. I.

**FAILURE OF THE YUBA RIVER DÉBRIS BARRIER.** By H. H. Wadsworth. Min. & Sci. Press, vol. 101, p. 630.  $7\frac{1}{2}$  columns. I.

**TAILINGS DAM OF THE CANANEA CONSOLIDATED COPPER COMPANY.** By

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See also **USE OF CONCRETE IN MINES**.

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See also **MINE FIRES**.

**FREEZING METHOD FOR RESTRAINING MINE WATERS.** By E. H. Nuttor. Min. & Sci. Press, vol. 99, p. 617. ¼ column.

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### Underground Dams

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**DAMS IN THE WABANA MINES.** J. C. M. I., vol. 13, p. 634. ½ page.

**BRICKWORK DAMS IN THICK COAL.** By L. Holland. T. I. M. E., vol. 37, p. 54. 5 pages. I.

**A CONCRETE BLOCK MINE DAM.** M. & M., vol. 29, p. 47. ¼ column. I.

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**GATE FOR CONTROLLING MINE WATER.** E. & M. J., vol. 89, p. 452. ¾ column. I.

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**WATER-TIGHT BULKHEAD DOOR.** E. & M. J., vol. 87, p. 262. 1 column. I.

**CAST-IRON MINE BULKHEAD.** E. & M. J., vol. 88, p. 991. 1½ columns. I.

## MINING DISTRICTS

### Miscellaneous Districts

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- BARITE ASSOCIATED WITH IRON-ORE IN PINAR DEL RIO PROVINCE, CUBA.** By C. Catlett. T. A. I. M. E., vol. 38, p. 358. 1½ pages.
- CHARACTER OF THE CUBAN COPPER MINES.** J. C. M. I., vol. 13, p. 97. 2½ pages.
- "TWO CUBAN MINES": COPPER.** By B. B. Lawrence. J. C. M. I., vol. 13, p. 91. 18 pages. I.
- EL COBRE COPPER MINE.** By B. B. Lawrence. M. & M., vol. 31, p. 235. 10½ columns. I.
- EL COBRE MINES, CUBA.** By E. G. Tuttle. M. & M., vol. 31, p. 449. 11 columns. I.
- COPPER ORES IN PORTO RICO.** E. & M. J., vol. 88, p. 518. ½ column.
- CUBAN GOLD MINES.** By E. B. Wilson. M. & M., vol. 31, p. 240. 1 column.
- CUBAN GOLD MINING.** By E. W. Dennison. Min. & Sci. Press, vol. 97, p. 500. ½ column.
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- IRON ORES OF SANTIAGO, CUBA.** By E. B. Wilson. M. & M., vol. 31, p. 245. 8½ columns. I.
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#### West Virginia

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- NOTES ON THE COAL INDUSTRY IN WEST VIRGINIA.** By R. B. Brinsford. E. & M. J., vol. 90, p. 775. 4½ columns.
- UPPER POTOMAC COAL FIELDS, WEST VIRGINIA.** By H. H. Stoek. M. & M., vol. 30, p. 201. 8 columns. I.
- COAL MINING IN CENTRAL WEST VIRGINIA.** By F. W. Parsons. E. & M. J., vol. 87, p. 1284. 16 columns. I.

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- COAL FIELDS OF WEST VIRGINIA.** By H. H. Stoek. M. & M., vol. 29, p. 219, 6½ columns, I.; p. 283, 7½ columns, I. and Map; p. 303, 8½ columns, I.; p. 509, 11½ columns. I.
- THE KANAWHA REGION, WEST VIRGINIA.** By H. H. Stoek. M. & M., vol. 30, p. 36, 9 columns, I.; p. 70, 8½ columns, I.
- COAL MINING IN KANAWHA VALLEY, WEST VIRGINIA.** By S. M. Buck. U. S. G. S., Mineral Resources, 1883 and 1884.
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- SULPHUR DEPOSITS NEAR THERMOPOLIS, WYOMING.** By E. G. Woodruff. U. S. G. S., Bull. 380, p. 373. 8 pages. I. 1908.
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### MINE DRAINAGE

#### Drainage in General

- CURRENT PUMPS FOR MINING.** By F. Reed. M. & M., vol. 30, p. 653. 3½ columns. I.
- DIVERTING WATER IN A WET SHAFT.** By A. D. Cox. M. & M., vol. 30, p. 415. ¾ column. I.
- PUMPING DURING SHAFT SINKING.** M. & M., vol. 30, p. 404. 5 columns. I.
- See also **SHAFT SINKING.**
- THE DRAINAGE OF THE NEW CHUM LINE OF REEF.** By F. G. Buckell. T. Au. I. M. E., vol. 8, pt. 2, p. 250. 4 pages. Map. D.
- DRAINAGE IN THE JOPLIN REGION, MISSOURI:** Shadow streams, etc. T. A. I. M. E., vol. 38, p. 327. 2 pages.
- PUMPING PROBLEMS OF THE JOPLIN DISTRICT.** By D. Brittain. E. & M. J., vol. 86, p. 214. 10½ columns. I.
- MINE DRAINAGE IN JOPLIN DISTRICT.** By L. L. Wittich. M. & M., vol. 30, p. 535. 5½ columns. I.
- STORM WATER DRAINS AND DATA.** By J. B. Balcomb. J. W. Soc. E., vol. 15, p. 699. 40 pages. I.
- TAPPING MINE WATER UNDER PRESSURE.** E. & M. J., vol. 86, p. 230. 1 column.
- See also **USE OF BORE HOLES.**
- NEW METHOD OF EXTRACTING OIL FROM BOREHOLES.** By F. A. Talbot. E. & M. J., vol. 87, p. 1001. 6 columns. I.
- LEINWEBER METHOD OF EXTRACTING OIL FROM WELLS.** By F. A. Talbot. E. & M. J., vol. 89, p. 1270. 4 columns. I.
- DETERMINING HEIGHT OF WATER IN INACCESSIBLE OPEN PIT.** By B. H. Case. E. & M. J., vol. 85, p. 301. 1½ columns. I.

**THE DISCHARGE OF SEWAGE INTO TIDAL WATERS.** By G. A. Soper. Sch. Mines Quart., vol. 30, p. 239. 12½ pages.

### Theory of Pumping

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### Pumps for Mine Use

**REVIEW OF PAST AND PRESENT STEAM PUMPING AT MINES.** By J. Tipping. T. Au. I. M. E., vol. 2, p. 31. 19½ pages.

**METHODS OF PUMPING DEEP GROUND WATERS.** By C. B. Burdick. J. W. Soc. E., vol. 12, p. 719. 37 pages. I.

**THE PUMPING PROBLEMS AT THE TOMBSTONE MINE.** By W. F. Staunton. E. & M. J., vol. 89, p. 174. 3½ columns.

**PUMPING AT BISBEE, ARIZONA.** By C. C. Austin. M. & M., vol. 31, p. 132. 4 columns. I.

**PUMP STATION AT LEONARD MINE, BUTTE.** E. & M. J., vol. 90, p. 400. 2½ columns. I.

**THE OLD DOMINION PUMPING SYSTEM.** By R. L. Herrick. M. & M., vol. 31, p. 324. 6 columns. I.

**DEEP PUMPING ON THE COMSTOCK.** M. & M., vol. 30, p. 761. 5½ columns. I.

**PUMPING PLANT AT THE WARD SHAFT, VIRGINIA CITY, NEVADA.** E. & M. J., vol. 89, p. 575. 1½ columns. I.

**PUMPING PLANT AT THE TOMBSTONE CONSOLIDATED.** By E. W. Walker. E. & M. J., vol. 88, p. 160. 5½ columns. I.

**AN URGENT PUMPING PROBLEM AND HOW IT WAS SOLVED.** By J. A. Seager. E. & M. J., vol. 88, p. 509. 2½ columns. I.

**THE EMERSON STEAM PUMP.** E. & M. J., vol. 85, p. 555. 1½ columns. I.

**LOWERING A LARGE PUMP INTO A MINE.** By G. J. Young. E. & M. J., vol. 87, p. 806. 2½ columns. I.

**THE SINKING PUMP AND ITS TROUBLES.** By M. T. Hostet. E. & M. J., vol. 89, p. 601. 2½ columns. I.

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### Water Rings for Mine Shafts

**WATER RINGS IN THE FILBERT SHAFT, PENNSYLVANIA.** M. & M., vol. 30, p. 560. ¾ column. I.

**WATER-RINGS FOR CIRCULAR SHAFTS.** T. I. M. E., vol. 38, p. 25. ¾ page.

### Rotary Pumps

**CENTRIFUGAL PUMPS.** By W. R. Wiley. J. W. Soc. E., vol. 15, p. 228. 36 pages. I.

**KINEMATICS OF ONE FORM OF ROTARY PUMP OR BLOWER.** By S. W. Balch. Sch. Mines Quart., vol. 30, p. 21. 6 pages. I.

**THE DESIGN OF CENTRIFUGAL PUMPS.** By J. A. Seager. E. & M. J., vol. 90, p. 1216. 6 columns. I.

**CENTRIFUGAL PUMP EFFICIENCY.** By V. V. Messer. Min. & Sci. Press, vol. 98, p. 696. 4½ columns. I.

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**MOTOR DRIVEN CENTRIFUGAL PUMP FOR MINE USE.** By C. Robinson. E. & M. J., vol. 87, p. 404. 3½ columns. D.

**MINE PUMPING WITH DIRECT CONNECTED ELECTRICALLY DRIVEN TURBINE PUMPS.** By P. H. Moore. J. M. Soc. N. S., vol. 12, p. 1. 8½ pages.

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**Cornish Pumps**

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**COMPOUND CORNISH PUMPING ENGINES.** By W. P. Gauvain. Min. & Sci. Press, vol. 99, p. 62. 5½ columns. Diagrams.

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**PUMPING AND SIPHONING HOT WATER.** By J. T. Beard. M. & M., vol. 31, p. 663. 3 columns. I.

**Compressed Air Pumping**

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**AIR-LIFT PUMP EMPLOYED IN UNWATERING MINE AFTER MINE FIRE.** E. & M. J., vol. 85, p. 640. 4 columns. I.

**DIRECT AIR-PRESSURE PUMPING.** Min. & Sci. Press, vol. 96, p. 819. 2½ columns. I.

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**EFFICIENCY OF THE AIR LIFT AS A SOLUTION PUMP.** By L. M. Green. E. & M. J., vol. 88, p. 251. 13½ columns. I.

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**UNWATERING SHAFT BY COMPRESSED AIR.** By L. Boudoire. E. & M. J., vol. 90, p. 848. 1½ columns. I.

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**THE VACUUM-PUMP IN THE CYANIDING OF SAND.** By W. A. Caldecott. Min. & Sci. Press, vol. 98, p. 316. 1½ columns.

**THE USE OF THE VACUUM PUMP IN THE CYANIDING OF SAND.** P. C. M. & M. Soc. S. A., vol. 9, p. 240. 2 columns.

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**EXPERIMENTS WITH TWO ELECTRICALLY-DRIVEN PUMPS.** By T. L. Galloway. T. I. M. E., vol. 36, p. 82. 11 pages.

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UNWATERING FLOODED MINES. By D. Lamont. E. & M. J., vol. 90, p. 639. 3 columns.

RECLAIMING FLOODED DRIFT MINES IN ALASKA. By W. H. Lanagan. Min. & Sci. Press, vol. 100, p. 892. 6 $\frac{1}{2}$  columns. I.

#### Drainage Tunnels

COMSTOCK DRAINAGE PROBLEMS. By L. M. Hall. Min. & Sci. Press, vol. 99, p. 27. 5 $\frac{1}{2}$  columns. I.

CUSTOM TUNNELS FOR DRAINAGE AND TRANSPORTATION OF ORE. E. & M. J., vol. 85, p. 852. 2 $\frac{1}{2}$  columns.

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THE LOS ANGELES AQUEDUCT TUNNEL WORK. Min. & Sci. Press, vol. 100, p. 681. 3 $\frac{1}{2}$  columns. I.

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#### Pipes and Pipe Fitting

CAPACITY OF PIPES. P. C. M. & M. Soc. S. A., vol. 9, p. 320.  $\frac{1}{2}$  column.

TESTS OF CAST IRON REINFORCED CONCRETE CULVERT PIPE. By A. N. Talbot. J. W. Soc. E., vol. 13, p. 376. 58 pages. I.

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CONCRETE PIPE CULVERTS. By O. P. Chamberlain. J. W. Soc. E., vol. 12, p. 81. 19 pages. I.

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TABLE OF GRADES FOR LAUNDERS AND PIPES IN REDUCTION PLANTS. By C. O. Schmitt. P. C. M. & M. Soc. S. A., vol. 9, p. 242. 1 column. Table.

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DITCHES: Method of Calculating Sections and Construction for Mining Work. By D. Waterman. Min. & Sci. Press, vol. 98, p. 352. 8 columns. I. Diagrams.

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**HISTORY OF THE ROCK DRILL.** By W. L. Saunders. Min. & Sci. Press, vol. 100, p. 735. 2 columns.

**THE HISTORY OF THE ROCK DRILL.** By W. L. Saunders. M. & M., vol. 31, p. 18. 1½ columns.

**HISTORY OF THE WATER LEYNER DRILL.** By C. A. Hirschberg. M. & M., vol. 31, p. 148. 2 columns.

**EVOLUTION OF WELL-DRILLING MACHINERY.** By J. L. Cowan. Min. & Sci. Press, vol. 100, p. 676. 3½ columns.

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**CONTRACT FOR DRILLING.** Min. & Sci. Press, vol. 99, p. 615. ½ column.

## Hand Drills

**THE HAND DRILL IN PROSPECTING PLACER DEPOSITS.** By J. P. Hutchins. E. & M. J., vol. 86, p. 1141. 13½ columns. I.

**HAND BORING BY THE VICTORIAN MINES DEPARTMENT.** T. Au. I. M. E., vol. 7, p. 49. 7 pages. I.

**WEAR OF STEEL IN HAND DRILLS.** P. C. M. & M. Soc. S. A., vol. 8, p. 153. ½ column.

**NOTES ON HAMMER DRILL WORK AT THE GRANITE MINES, BRITISH COLUMBIA.** By H. B. Williams. T. I. M. & M., vol. 19, p. 463. 5½ pages. I.

**HAND DRILLING IN ALLUVIUM.** By E. K. Hall. Min. & Sci. Press, vol. 101, p. 118. 2 columns.

**HAND CHURN DRILLING.** By O. H. Packer. Min. & Sci. Press, vol. 99, p. 296. 1½ columns.

See also **COST OF DRILLING AND BORING.**

## Machine or Power Drills

**NOTES ON THE CONSTRUCTION AND PRACTICAL OPERATION OF ROCK DRILLING MACHINES.** By E. M. Weston. P. C. M. & M. Soc. S. A., vol. 6, p. 38, 20½ columns, I.; p. 118, 24½ columns, I.; p. 162, 11 columns; p. 193, 3 columns; p. 217, 11½ columns.

**NOTES ON SMALL STOPE DRILLS.** By E. M. Weston. P. C. M. & M. Soc. S. A., vol. 8, p. 109. 23 columns, I.; p. 151, 24½ columns; p. 189, 1 column; p. 210, 20 columns; p. 270, 15 columns.

**AIR-DRILLS AND THEIR EFFICIENCY.** By S. K. Patterson. Min. & Sci. Press, vol. 97, p. 467. 2½ columns.

**EFFECT OF HIGH AND LOW AIR PRESSURE IN OPERATING DRILLS.** P. C. M. & M. Soc. S. A., vol. 8, p. 216. 1 column.

**THE SCIENCE OF ECONOMICALLY MINING HARD GROUND WITH PRECUSIVE ROCK DRILLS AND COMPRESSED AIR.** By W. A. T. Davies. T. Au. I. M. E., vol. 11, p. 151. 13 pages. I.

**ROCK DRILLS AND AIR ECONOMY.** E. & M. J., vol. 87, p. 895. 3 columns. I.

**MODERN ROCK DRILLING.** M. & M., vol. 30, p. 385. 5 columns. I.

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**MACHINE VS. HAND DRILLING IN SINKING ON THE RAND.** By E. M. Weston. E. & M. J., vol. 85, p. 439. 10½ columns. I.

**MACHINE WORK VS. HAND DRILLING, SOUTH AFRICA.** T. Au. I. M. E., vol. 5, p. 33. Tables.

**THE GORDON DRILL.** E. & M. J., vol. 87, p. 468. ½ column. I.

**THE WALSKI HYDRAULIC ROCK DRILL.** By F. A. Talbot. E. & M. J., vol. 89, p. 1278. 5 columns. I.

**THE SCOTT GASOLINE ROCK DRILL.** E. & M. J., vol. 86, p. 1008.  $\frac{1}{2}$  column. I.

**THE STEPHENS CLIMAX IMPERIAL HAMMER DRILL.** By E. M. Weston. E. & M. J., vol. 87, p. 657.  $3\frac{1}{4}$  columns. I.

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**MACHINE DRILLS FOR STOPING.** By E. M. Weston. E. & M. J., vol. 85, p. 1002.  $12\frac{3}{4}$  columns, I.; p. 1045,  $8\frac{1}{2}$  columns, I.

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**LARGE DRILLS IN STOPING.** E. & M. J., vol. 89, p. 19. 1 column.

**DRILLS FOR STOPING.** By A. Del Mar. Min. & Sci. Press, vol. 96, p. 169. 2 columns.

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- RECORD OF BOREHOLE NO. 1 OF THE STANDARD COAL AND RAILWAY COMPANY, LIMITED, ABOUT ONE MILE NORTH OF HALFWAY RIVER LAKE, CUMBERLAND COUNTY, NOVA SCOTIA.** By R. H. Brown. J. M. Soc. N. S., vol. 10, p. 162. 6 pages.
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- NEW DEVELOPMENTS IN WELL BORING AND IRRIGATION IN EASTERN SOUTH DAKOTA.** By N. H. Darton. U. S. G. S., 18th Ann. Rept., pt. 4, pp. 561-616, 1896-97. I.
- BORING:** Prospect Work by Churn Drill. Min. Mag., vol. 10, p. 451. 4½ pages.
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**RECORD OF DEEP-WELL DRILLING FOR 1904.** By M. L. Fuller, E. F. Lines, and A. C. Veatch. U. S. G. S., Bull. 264, 106 pages, 1905; Bull. 298, 299 pages, 1906.

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**THE ASSAY WEIGHT AND ITS RELATION TO THE BALANCE OF PRECISION.** By A. Whitby. P. C. M. & M. Soc. S. A., vol. 5, p. 40, 11 columns; p. 82, ½ column; p. 101, 7½ columns; p. 127, ½ column; p. 150, 1 column.

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GENESIS AND DEVELOPMENT OF THE COKING OVEN. By W. Galloway. E. & M. J., vol. 88, p. 11. 9 columns. I.

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- THE LARDER LAKE DISTRICT, ONTARIO. E. & M. J., vol. 85, p. 258. 2 columns.
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- THE PORCUPINE GOLDFIELD. By A. L. Simon. Min. Mag., London, vol. 3, p. 348. 6 columns. I.
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- PORCUPINE DISTRICT OF ONTARIO. By W. G. Miller. Min. & Sci. Press, vol. 101, p. 232. 2 columns. Map.
- PORCUPINE LAKE REGION, ONTARIO. E. & M. J., vol. 89, p. 209. 3½ columns. Map.
- THE PORCUPINE GOLDFIELD. By W. J. Loring. Min. Mag., vol. 4, p. 284. 8 columns. I.
- THE PORCUPINE GOLD FIELD. By R. A. Meyer. M. & M., vol. 31, p. 701. 4½ columns. Map.
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- ORE DEPOSITS OF THE EASTERN GOLD-BELT OF NORTH CAROLINA. By W. O. Crosby. T. A. I. M. E., vol. 38, p. 849. 9 pages.
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- MINES AND MILL OF MONTEZUMA MINES, COSTA RICA. By S. F. Shaw. E. & M. J., vol. 90, p. 715. 6 columns. I.
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- THE GOLD DEPOSITS OF FRENCH GUIANA. E. & M. J., vol. 87, p. 400. 2½ columns. I.
- THE GOLD-FIELDS OF FRENCH GUIANA AND THE NEW METHOD OF DREDGING. By A. F. J. Bordeaux. T. A. I. M. E., vol. 41, p. 567. 28 pages. I.
- GOLD-BEARING GRAVELS IN FRENCH GUIANA. T. A. I. M. E., vol. 41, p. 575. 10 pages.
- GOLD MINES OF TIBET. By A. Del Mar. Min. & Sci. Press, vol. 100, p. 254. 3½ columns.
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- ALLUVIAL GOLD DEPOSITS AND MINING IN COLOMBIA. By P. A. Alig.

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- E. & M. J., vol. 90, p. 1098. 4 columns.
- COLOMBIAN GOLD PLACERS. T. A. I. M. E., vol. 39, p. 418. 1 page. Table.
- PRIMARY GOLD IN COLORADO GRANITE. By J. B. Hastings. T. A. I. M. E., vol. 39, p. 97. 6 pages. I.
- LESSONS FROM GILPIN COUNTY PRACTICE. By G. E. Collins. Min. & Sci. Press, vol. 101, p. 366. 11½ columns.
- THE ALICE MINE: Colorado's Largest Ore Body. By R. L. Herrick. M. & M., vol. 29, p. 294. 6 columns. I.
- REPORT ON THE POVERTY GULCH MINE. By C. W. Henderson. M. & M., vol. 31, p. 586. 5½ columns, I.; p. 694, 7 columns, I.
- GOLD ORE NEAR NEWCASTLE, COLORADO. By F. Rickard. Min. & Sci. Press, vol. 99, p. 503. 1 column. I.
- THE SAN JUAN REGION, COLORADO. By T. T. Read. Min. & Sci. Press, vol. 97, p. 632, 8 columns, I.; p. 668, 10 columns, I.
- GOLD DEPOSITS OF SAN JUAN, COLORADO. By W. C. Prosser. M. & M., vol. 31, p. 335. 5 columns. I.
- MINING IN THE SAN JUAN, COLORADO. By W. H. Storms. Min. & Sci. Press, vol. 101, p. 610, 5½ columns, I.; p. 737, 6½ columns, I.; p. 865, 3½ columns, I.
- THE CRESSON MINE, CRIPPLE CREEK, COLORADO. By R. L. Herrick. M. & M., vol. 31, p. 735. 11½ columns. I.
- LA PLATA MOUNTAINS, COLORADO. By R. H. Toll. Min. & Sci. Press, vol. 97, p. 741. 6½ columns. Map.
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- HORNS PEAK, COLORADO. E. & M. J., vol. 86, p. 809. 2½ columns. I.
- GOLD PLACER DEPOSITS NEAR FAY, ROUTT COUNTY, COLORADO. By H. S. Gale. U. S. G. S., Bull. 340, p. 84. 13 pages. I. 1907.
- THE BLACK HILLS OF SOUTH DAKOTA. By W. H. Storms. Min. & Sci. Press, vol. 101, p. 114, 5 columns, I.; p. 144, 7 columns, I.; p. 264, 7 columns, I.; p. 500, 6 columns; p. 571, 6 columns; p. 669, 6 columns, I.
- DRY PLACERS OF THE BLACK HILLS. Min. & Sci. Press, vol. 101, p. 571. 1½ columns.
- PLACERS OF THE BLACK HILLS, SOUTH DAKOTA. Min. & Sci. Press, vol. 101, p. 573. 2 columns.
- GOLD MINING INDUSTRY IN THE DUTCH EAST INDIES. By E. A. Winton. E. & M. J., vol. 88, p. 513. 4½ columns. Map.
- OCCURRENCE OF AURIFEROUS AND STANIFEROUS TOURMALINE IN SUMATRA. By L. Hundeshagen. E. & M. J., vol. 87, p. 1003. ¾ column.
- GOLD MINING IN EGYPT. By C. S. Herzig. Min. & Sci. Press, vol. 95, p. 212. 4½ columns. I.
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- GOLD MINING IN FRANCE. By T. A. Rickard. Min. Mag., London, vol. 1, p. 283. 4 columns. I.
- GOLD IN FRANCE. P. C. M. & M. Soc. S. A., vol. 7, p. 315. ¾ column.
- THE GREATEST GOLD MINE OF FRANCE. By T. T. Read. Min. Mag. London, vol. 4, p. 209. 7 columns. I.
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- MOORE'S GOLD MINES, DAHLONEGA, GEORGIA.** Min. Mag., vol. 2, p. 24. 3 pages.
- THE GOLD PLACERS OF LUMPKIN COUNTY, GEORGIA.** Min. Mag., vol. 10, p. 457. 20 pages.
- ATLANTA GOLD DISTRICT, IDAHO.** By R. N. Bell. E. & M. J., vol. 86, p. 176. 4 columns. I.
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- MINING OPERATIONS IN THE STATE OF CHIHUAHUA, MEXICO.** By W. H. Seamon. E. & M. J., vol. 90, p. 654.  $6\frac{1}{2}$  columns. I.
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- YOQUIVO MINE AND MILL, WESTERN CHIHUAHUA.** By W. H. Seamon. E. & M. J., vol. 90, p. 811. 4 columns. I.
- PACHUCA DISTRICT, MEXICO.** By J. L. Mennell. Min. & Sci. Press, vol. 100, p. 455. 3 columns. I.
- SANTA GERTRUDE'S AND LA BLANCA MINES, PACHUCA, MEXICO.** E. & M. J., vol. 88, p. 670. 1 column. I.
- THE SANTA GERTRUDE'S MINE, PACHUCA, MEXICO.** E. & M. J., vol. 89, p. 214. 9 columns. I.
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- LAS PILARES MINE, SONORA, MEXICO.** By E. M. Robb. M. & M., vol. 31, p. 106.  $11\frac{1}{2}$  columns. I.
- OCCURRENCE OF GOLD AND SILVER ORES AT THE LAS PILARES MINE.** M. & M., vol. 106.  $2\frac{1}{2}$  columns. I.
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- EL RAYO GOLD MINE, NEAR SANTA BARBARA, MEXICO. By C. T. Rice. E. & M. J., vol. 86, p. 78. 7 columns. I.
- SAN JOSE DE GRACIA, A GREAT MEXICAN GOLD CAMP. By E. A. H. Tays. E. & M. J., vol. 88, p. 640. 16 columns. I.
- MINING IN THE SETENTRION, MEXICO. By M. R. Lamb. Min. & Sci. Press, vol. 97, p. 782. 5 columns. I.
- THE LLUVIA DE ORO MINE. By E. A. H. Tays. Min. & Sci. Press, vol. 100, p. 59. 3 columns. I.
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- MINES OF ZOMELAHUACAN, VERACRUZ, MEXICO. By M. Fishback. E. & M. J., vol. 90, p. 1017. 6½ columns. I.
- CONDITIONS AT THE PALMILLA MINE, PARRAL, MEXICO. By F. W. Smith. E. & M. J., vol. 90, p. 259. 11½ columns. I.
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- NOTES ON THE GEOLOGY OF THE RADERSBURG DISTRICT, MONTANA. By D. C. Bard. E. & M. J., vol. 90, p. 599. 1 column.
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- GOLDFIELD AND THE GOLDFIELD DISTRICT OF NEVADA.** By J. Tyssowski. E. & M. J., vol. 87, p. 1229. 6 columns. I.
- RAWHIDE, NEVADA.** By A. Del Mar. E. & M. J., vol. 85, p. 853. 6 columns. I.
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- OCCURRENCE OF MAGNETITE IN THE EMMA MINE, BRITISH COLUMBIA. J. C. M. I., vol. 10, p. 188. 6 pages. I.
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- IRON MINING POSSIBILITIES IN THE PROVINCE OF QUEBEC. By F. Cirkel. J. C. M. I., vol. 10, p. 108. 10 pages. D.
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- REMINISCENCES OF BROKEN HILL. By J. Warren. T. Au. I. M. E., vol. 9, p. 1. 23 pages. I.
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- ZINC MINING IN BUTTE, MONTANA. E. & M. J., vol. 87, p. 912. 1 column.
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- THE TYNTICHA ZINC MINE, SIBERIA.** By C. W. Purington. Min. & Sci. Press, vol. 99, p. 200. 1½ columns.
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See also THEORY OF ORE DEPOSITS and GEOLOGY OF FUELS AND ORES.

### Occurrence of Tungsten

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RARE METALS: Tungsten. By C. Baskerville. E. & M. J., vol. 87, p. 203. 2½ columns.

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TUNGSTEN INDUSTRY OF BOULDER COUNTY, COLORADO, IN 1908. By R. D. George. E. & M. J., vol. 87, p. 1055. 2 columns. Map.

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#### Occurrence of Wolframite

NOTE ON A WOLFRAMITE DEPOSIT IN THE WHETSTONE MOUNTAINS, ARIZONA. By F. L. Hess. U. S. G. S., Bull. 380, p. 164. 2 pages. 1908.

### HANDLING AND STORAGE OF MINERAL

#### Methods of Handling Mineral and Coal

MATERIAL-HANDLING MACHINERY AND ITS EVOLUTION. By E. H. Messiter. Min. & Sci. Press, vol. 101, p. 138. 3½ columns. D.

MINE CAR CAGING MACHINE. M. & M., vol. 31, p. 413. 1 column. I.

HANDLING COAL ON THE TIPPLE AT THE CRESCENT MINE NEAR CALIFORNIA, PENNSYLVANIA. E. & M. J., vol. 89, p. 328. 2 columns. I.

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AN ORE-HANDLING PLANT IN NEW CALEDONIA. E. & M. J., vol. 87, p. 391. 15 columns. I.

EQUIPMENT AND ORE HANDLING AT CORNWALL MINE, PENNSYLVANIA. By Q. Bent. E. & M. J., vol. 88, p. 725. 5½ columns. I.

HANDLING THREE THOUSAND TONS OF ORE PER DAY AT THE GRANBY MINES AND SMELTER, PHOENIX AND GRAND FORKS, BRITISH COLUMBIA. By A. B. W. Hodges. J. C. M. I., vol. 11, p. 407. 8 pages. I.

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#### Tramming and Mucking

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HANDLING ORE IN GLORY HOLE MINE AT DE LAMAR, NEVADA. E. & M. J., vol. 87, p. 452. ½ column. I.

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HANDLING ORE UNDERGROUND IN THE GLOBE-KELVIN DISTRICT MINES, ARIZONA. E. & M. J., vol. 89, p. 813. 1½ columns.

ORE HANDLING AT COPPER QUEEN MINE. By M. C. Milton. M. & M., vol. 30, p. 148. 5½ columns. I.

UNDERGROUND HANDLING AND TRANSPORT OF ORE. By C. B. Saner and Geo. Carter. P. C. M. & M. Soc. S. A., vol. 5, p. 7. 2 columns.

See also HAULAGE SYSTEMS.

METHODS OF ORE HANDLING AT THE RICHARDSON MINES, GUYSBOROUGH COUNTY, NOVA SCOTIA. By H. S. Badger. J. M. Soc. N. S., vol. 13, p. 83. 18 pages. I.

HANDLING ORE IN THE QUINCY MINE, MICHIGAN. J. C. M. I., vol. 10, p. 407. 5 pages. I.

HANDLING COAL UNDERGROUND IN THE CAPE BRETON ISLAND MINES. J. C. M. I., vol. 13, p. 648. 2 pages. I.

ARRANGEMENT OF PARTINGS IN A COAL MINE: Side Track for Storage

of Empty and Loaded Cars. By H. J. Nelms. E. & M. J., vol. 90, p. 824. 3 columns. I.

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A COAL-LOADING MACHINE. By W. Whaley. M. & M., vol. 31, p. 206. 3½ columns. I.

A MECHANICAL SUBSTITUTE FOR THE SHOVEL IN COAL MINES. By W. E. Hamilton. E. & M. J., vol. 85, p. 814. 7 columns. I.

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#### **Loading and Unloading Cars and Boats, Etc.**

LOADING BARGES WITH COAL. T. I. M. E., vol. 36, p. 664. 28 pages. I.

COAL AND ORE LOADING PLANT, NEW RHINE HARBOR. By J. B. Van Brusel. E. & M. J., vol. 88, p. 763. 7 columns. I.

SEWALLS POINT COAL PIER. By F. F. Hartington. M. & M., vol. 30, p. 321. 5 columns. I.

UNLOADING RAILROAD CARS BY MACHINERY. By S. B. Redfield. E. & M. J., vol. 88, p. 605. 10 columns. I.

CAR-LOADING MACHINE FOR PILING COAL OR LOADING FROM PILES INTO CARS. M. & M., vol. 29, p. 76. 2½ columns. I.

COAL SHIPPING PIER. By H. Donkin. J. M. Soc. N. S., vol. 12, p. 83. 2 pages.

COAL SHIPMENT AND THE LAY-OUT OF STAITE HEADS WITH SPECIAL REFERENCE TO ANTI-BREAKAGE APPLIANCES. T. I. M. E., vol. 39, p. 650. 67 pages. I.

MODERN HOLMEN COALING STATIONS. By C. P. Ross. M. & M., vol. 31, p. 639. 3 columns. I.

COAL SHIPMENT AND THE LAYING-OUT OF STAITE HEADS, WITH SPECIAL REFERENCE TO ANTI-BREAKAGE APPLIANCES. By J. Kirsopp. T. I. M. E., vol. 36, p. 610. 116 pages. I.

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THE RAKOWSKY AUTOMATIC UNLOADING ORE CAR. By L. S. Austin. E. & M. J., vol. 88, p. 109. 2 columns. I.

HANDLING CRUSHED ROCK ON SAN FRANCISCO BAY. By F. K. Blue. E. & M. J., vol. 86, p. 1153. 7 columns. I.

CONCRETE LOADING PLATFORM FOR LOADING CARS UNDERGROUND. E. & M. J., vol. 88, p. 939. ½ column. I.

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#### **Chutes for Loading Cars and Skips**

STEEL ORE CHUTE FOR USE IN HIGH-GRADE STOPES. E. & M. J., vol. 90, p. 706. ¼ column.

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SUPER LOADING CHUTE. E. & M. J., vol. 89, p. 256. ½ column. I.

UNDERGROUND HOPPER FOR LOADING SKIPS. By T. L. Wittich. E. & M. J., vol. 89, p. 1004. 1½ columns. I.

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ORE CHUTE IN GRANBY MINES. J. C. M. I., vol. 11, p. 402. I.

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ORE CHUTE: Steel and Wood. E. & M. J., vol. 88, p. 421. 1 column. I.

CHUTE GATE AT MAMMOTH MINE, KENNEDY, CALIFORNIA. E. & M. J., vol. 90, p. 107. ¼ column. I.

FINGER CHUTES. By C. A. Chase. Min. & Sci. Press, vol. 98, p. 315. 2 columns. I.

THE FINGER CHUTE. By T. A. Rickard. Min. & Sci. Press, vol. 97, p. 538. 4½ columns. I.

**FINGER CHUTE FOR FILLING WHEEL-BARROWS.** E. & M. J., vol. 88, p. 1130. 1 column. I.

**THE CHINAMAN CHUTE.** T. I. M. & M., vol. 18, p. 294, 1 page, I.; p. 310, 1½ pages.

**A MODIFIED "CHINAMAN" CHUTE.** E. & M. J., vol. 89, p. 1215. 1 column. I.

**THE "CHINAMAN" ORE CHUTE.** Min. & Sci. Press, vol. 96, p. 667. ½ column. I.

**THE "CHINAMAN" ORE CHUTE.** E. & M. J., vol. 88, p. 472. 1 column. I.

**WINGED CHUTE IN THE ARGONAUT MINE, CALIFORNIA.** E. & M. J., vol. 90, p. 59. 1 column. I.

**THE ZUEBLIN SYSTEM OF ORE CHUTES.** By A. Gradenwitz. E. & M. J., vol. 90, p. 902. 1½ columns. I.

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#### Weighing Ore and Coal

**AUTOMATIC SCALE FOR WEIGHING COAL.** E. & M. J., vol. 87, p. 421. ½ column.

**RICHARDSON AUTOMATIC WEIGHING MACHINE.** Min. & Sci. Press, vol. 95, p. 788. 2 columns. I.

**WEIGHING ORE IN STAMP MILLS.** By F. A. Ross. E. & M. J., vol. 86, p. 804. 3 columns. I.

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#### Elevators

**PECK'S CENTRIFUGAL ELEVATORS.** By W. Peck. T. Au. I. M. E., vol. 10, p. 265. 4 pages. I.

**GATES' ELEVATORS.** Min. & Sci. Press, vol. 96, p. 715. 2½ columns. I.

**HIGH SPEED ELEVATORS.** By W. W. Lighthipe. Sch. Mines Quart., vol. 29, p. 321. 6 pages. I.

**DETAILED CONSTRUCTION OF ELEVATORS IN THE CEUR D'ALENE MILLS.** E. & M. J., vol. 89, p. 21. 11 columns. I.

**CHAT ELEVATOR AND LOADER.** E. & M. J., vol. 89, p. 257. 1 column. I.

**MECHANICAL ELEVATOR FOR ELEVATING GRAVEL IN MINING.** By T. A. Rickard. Min. & Sci. Press, vol. 98, p. 415. 6½ columns. I.

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**TAILINGS ELEVATORS ON THE RAND.** By E. M. Weston. E. & M. J., vol. 86, p. 539. 2 columns. I.

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**AN UNDERGROUND HAULAGE SYSTEM.** By A. H. Fay. E. & M. J., vol. 88, p. 938. 4½ columns. I.

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**ARRANGEMENT OF HAULAGE WAYS IN MILLING SYSTEM OF MINING.** E. & M. J., vol. 88, p. 920, ½ column, I.; p. 963, ½ column, I.

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- SIDE DUMP MINE CAR.** By C. T. Rice. E. & M. J., vol. 90, p. 1197.  $1\frac{1}{2}$  columns. I.
- SIDE-DUMP MINE CAR.** Min. & Sci. Press, vol. 101, p. 49. 2 columns. I.
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### HOISTING IN MINING

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**STATIONARY VS. MOVING HOISTING PLANTS.** By J. F. Jackson. E. & M. J., vol. 89, p. 521. 3 columns.

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**WINDING MACHINERY ON THE BENDIGO GOLDFIELD.** By A. Harkness. T. Au. I. M. E., vol. 8, pt. 2, p. 205. 10 pages. I.

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THE STUDENT APPRENTICESHIP SYSTEM FROM A MANUFACTURER'S STANDPOINT. By A. G. Wessling. P. Soc. P. E. E., vol. 15, p. 444. 14 pages.

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**Labor Troubles, Strikes, Etc.**

THE ANTHRACITE MINERS' DEMANDS IN 1909. E. & M. J., vol. 87, p. 405. 1 $\frac{1}{2}$  columns.

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- PLAN OF MINE NO. 1, STEARNS COAL COMPANY, STEARNS, KENTUCKY.** M. & M., vol. 30, p. 573. Map.
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**THE USE OF GRAPHIC FORMULÆ IN METALLURGICAL CALCULATIONS.** By D. H. Browne. J. C. M. I., vol. 10, p. 281. 20 pages. D.

**SLAG REDUCTION.** By J. D. Hubbard. Min. & Sci. Press, vol. 100, p. 223. 2½ columns. I.

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### Metallurgy of Copper

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- THE INFLUENCE OF BISMUTH ON WIRE-BAR COPPER. By H. N. Lawrie. T. A. I. M. E., vol. 40, p. 604. 10 pages. I.
- THE INFLUENCE OF BISMUTH ON WIRE BAR COPPER. By H. N. Lawrie. T. A. I. M. E., vol. 40, p. 604. 10 pages. I.
- THE CONSTITUTION OF FERRO-CUPROUS SULPHIDES. By H. O. Hofman, W. S. Caypless and E. E. Harrington. T. A. I. M. E., vol. 36, p. 142. 12 pages. I.
- THE NEILL PROCESS AT COCONINO, ARIZONA. By J. W. Neill. E. & M. J., vol. 85, p. 556. 2½ columns.
- THE NEILL PROCESS AT COCONINO, ARIZONA: Leaching with Sulphur Dioxide. E. & M. J., vol. 85, p. 152. 1½ columns.
- THE JUMAN COPPER LEACHING PROCESS. E. & M. J., vol. 86, p. 132. 1½ columns.
- COPPER LEACHING PLANT IN THE URAL MOUNTAINS. By A. L. Simon. T. I. M. & M., vol. 19, p. 212, 30 pages, I.; p. 244, 18 pages.
- PRECIPITATION OF COPPER FROM BUTTE MINE WATER. By C. J. Stose. E. & M. J., vol. 87, p. 953. 5½ columns. I.
- COPPER LEACHING IN THE URAL MOUNTAINS. E. & M. J., vol. 89, p. 461. 1½ columns.
- PRECIPITATION OF COPPER FROM CUPIFEROUS WATERS. By F. H. Probert. Min. & Sci. Press, vol. 96, p. 27. 5½ columns. I.

- A COPPER PRECIPITATING PLANT. By H. W. Chittenden. E. & M. J., vol. 86, p. 853. 4½ columns.
- THE OUTLOOK FOR HYDROMETALLURGY OF COPPER. By W. E. Greenawalt. E. & M. J., vol. 90, p. 960. 9 columns.
- CONSTRUCTION OF 100-TON COPPER SMELTING PLANT. By C. C. Christensen. E. & M. J., vol. 86, p. 847. 10½ columns.
- THE WASHOE REDUCTION WORKS. M. & M., vol. 30, p. 520. 6½ columns. I.
- THE GREAT COBAR SMELTING WORKS. E. & M. J., vol. 85, p. 950. 15½ columns. I.
- WALLEROO AND MOONTA COPPER MINES AND SMELTERY. By G. W. Williams. E. & M. J., vol. 88, p. 54. 14½ columns. I.
- SMELTING WORKS OF TEZINTLAN COPPER COMPANY. By A. van Zwaluwenburg. E. & M. J., vol. 90, p. 169. 10 columns. I.
- COPPER SMELTING IN SIBERIA. By W. A. Heywood. Min. & Sci. Press, vol. 97, p. 59. 1 column.
- COPPER SMELTING IN THE ARGENTINE. By C. H. Jones. Min. Mag., London, vol. 1, p. 123. 12½ columns. I.
- COPPER SMELTING IN QUEENSLAND, AUSTRALIA. E. & M. J., vol. 87, p. 605. 2 columns.
- THE SMELTER OF THE MAMMOTH COPPER MINING COMPANY, AT KENNEDY, CALIFORNIA. By D. F. Campbell. Min. & Sci. Press, vol. 96, p. 30. 3½ columns. I.
- SMELTING COPPER ORES IN SHASTA COUNTY, CALIFORNIA. E. & M. J., vol. 88, p. 396. 6 columns. I.
- THE GRANBY SMELTER EQUIPMENT. By B. L. Sackett. M. & M., vol. 30, p. 524. 8½ columns. I.
- THE GRANBY SMELTER. By R. Keffer. Min. & Sci. Press, vol. 98, p. 256. 3½ columns. I.
- RECENT DEVELOPMENTS AT THE GRANBY SMELTER. By F. E. Lathe. J. C. M. I., vol. 13, p. 273. 15 pages. I.
- CANANEA ORE-BEDDING SYSTEM. By R. L. Herrick. M. & M., vol. 30, p. 65. 9½ columns. I.
- CANANEA FURNACE PRACTICE. By C. De Kalb. Min. & Sci. Press, vol. 101, p. 9. 6½ columns. I.
- COPPER-GOLD SMELTING AT MAGISTRAL, MEXICO. By R. Linton. Min. & Sci. Press, vol. 97, p. 843. 6½ columns. I.
- THE DOUGLAS COPPER SMELTER AT FUNDICION, MEXICO. By P. E. Barbour. E. & M. J., vol. 85, p. 303. 9 columns. I.
- DOUGLAS SMELTING WORKS, FUNDICION, SONORA. By W. P. Tucker. E. & M. J., vol. 86, p. 413. 4½ columns. I.
- PRESENT CONDITION OF THE GARFIELD SMELTING WORKS. By L. S. Austin. Min. & Sci. Press, vol. 99, p. 590. 2½ columns.
- SMELTING PLANT OF THE BUTTE REDUCTION WORKS. By A. H. Wethey. E. & M. J., vol. 88, p. 1153. 7 columns. I.
- THE SMELTERS AT ANACONDA. By E. P. Mathewson. E. & M. J., vol. 86, p. 130. 2 columns.
- THE TAKILMA SMELTER, OREGON. By Geo. Crevar. E. & M. J., vol. 85, p. 365. 1½ columns.
- MINING AND SMELTING AT CERRO DE PASCO, PERU. By C. C. Sample. E. & M. J., vol. 85, p. 206. 12 columns. I.
- SMELTING AT CERRO DE PASCO, PERU. By L. W. Strauss. Min. & Sci. Press, vol. 97, p. 637. 15½ columns. I.
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- COPPER SMELTING IN TENNESSEE. By J. P. Channing. Min. & Sci. Press, vol. 96, p. 97. 1½ columns.
- MINING AND SMELTING IN THE DUCKTOWN DISTRICT. By E. Higgins. E. & M. J., vol. 86, p. 1237. 12½ columns. I.
- NOTES ON THE METALLURGY AT COPPERHILL, TENNESSEE. By G. A. Guess. E. & M. J., vol. 90, p. 866. 2½ columns.
- THE TINTIC SMELTER. By L. A. Palmer. M. & M., vol. 29, p. 535. 3½ columns. I.
- THE TYEE SMELTER. By R. L. Phelps. Min. & Sci. Press, vol. 95, p. 782. 3½ columns. I.
- SMELTING PRACTICE OF THE TYEE COPPER COMPANY. By G. W. Maynard. E. & M. J., vol. 88, p. 905. 11½ columns. I.
- YAMPA SMELTER, BINGHAM, UTAH. By L. A. Palmer. Min. & Sci. Press, vol. 99, p. 225. 6½ columns. I.
- THE YAMPA SMELTER AT BINGHAM, UTAH. By L. A. Palmer. M. & M., vol. 31, p. 14. 8½ columns. I.
- THE INTERNATIONAL SMELTERY AT TOOKEELE, UTAH. E. & M. J., vol. 90, p. 1059. 6½ columns. I.
- THE NEW INTERNATIONAL SMELTERY AT TOOKEELE, UTAH. By J. Tyssowski. E. & M. J., vol. 89, p. 865. 7 columns. I.
- THE TOOKEELE SMELTER. By C. M. McGregor. M. & M., vol. 31, p. 321. 5½ columns. I.
- NOTES ON COPPER SMELTING IN THE WEST. By E. D. Peters. E. & M. J., vol. 88, p. 735. 4 columns.
- See also CONCENTRATION, and the COPPER TRADE, also COST OF METALLURGICAL TREATMENT.
- Blast Furnace Smelting of Copper**
- PRACTICAL BLAST FURNACE MANAGEMENT. By Randolph Bolling. E. & M. J., vol. 85, p. 989. 8 columns. I.
- BLAST FURNACE PROGRESS. By J. Birkinbine. U. S. G. S., Mineral Resources, 1883 and 1884, vol. 14.
- A BLAST FURNACE OF OVAL SECTION. E. & M. J., vol. 87, p. 853. 3½ columns. I.
- SOME MODIFICATIONS IN BLAST FURNACE CONSTRUCTION. By J. Kennedy. P. E. Soc. W. Pa., vol. 23, p. 1. 14 pages. I.
- BLAST FURNACE STOCK-HANDLING AND CHARGING APPARATUS. By W. H. Graham. J. M. Soc. N. S., vol. 15, p. 107. 4 pages. I.
- ON THE USE OF RAW COAL IN BLAST FURNACES. Min. Mag., vol. 8, p. 1.
- TOPS OF COPPER BLAST FURNACES. By N. H. Emmons. T. A. I. M. E., vol. 41, p. 723. 10 pages. I.
- CIRCULAR COPPER BLAST FURNACES. By T. E. Lambert. M. & M., vol. 31, p. 20. 6½ columns. I.
- ALUMINA IN COPPER BLAST FURNACE SLAGS. E. & M. J., vol. 86, p. 1262. 5 columns.
- ROLE OF ALUMINA IN COPPER BLAST FURNACE SLAGS. By L. G. Smith. E. & M. J., vol. 90, p. 1260. 5½ columns.
- NEW COPPER BLAST FURNACES AT TEZINTLAN SMELTERY. By C. Robinson. E. & M. J., vol. 88, p. 655. 4 columns. I.
- THE CHARGING OF BLAST FURNACES. By E. H. Messiter. Min. & Sci. Press, vol. 95, p. 528. 8½ columns. I.
- BLAST FURNACES IN THE GRANBY SMELTER. M. & M., vol. 30, p. 525. 2 columns. I.
- BLAST FURNACES AT THE YAMPA SMELTER, BINGHAM, UTAH. M. & M., vol. 31, p. 16. 2½ columns.
- THE CANANEA BLAST FURNACE. By C. F. Shelby. E. & M. J., vol. 85, p. 841. 16 columns. I.
- COPPER BLAST FURNACE SMELTING AT ANACONDA. By C. Offerhaus. E. & M. J., vol. 88, p. 243. 19 columns. I.

**THE CORROSION OF WATER-JACKETS OF COPPER BLAST FURNACES.** By G. B. Lee. T. A. I. M. E., vol. 38, p. 877. 9 pages.

**THE CORROSION OF WATER-JACKETS OF COPPER BLAST FURNACES:** Discussion on the paper of G. B. Lee. Trans., vol. 388, p. 877.

T. A. I. M. E., vol. 39, p. 806. 10 pages.

See also METALLURGY OF COPPER.

#### **Pyritic Smelting of Copper**

**THE DEVELOPMENT OF PYRITIC SMELTING.** By R. C. Sticht. T. Au. I. M. E., vol. 11, p. 1. 70 pages.

**PYRITE SMELTING AND SULPHURIC ACID MANUFACTURE.** By F. J. Felding and J. P. Channing. E. & M. J., vol. 90, p. 555. 10½ columns. D.

**NEGATIVE RESULTS IN PYRITIC SMELTING.** E. & M. J., vol. 85, p. 325. 4 columns; p. 373, 4½ columns.

**PYRITE SMELTING BY KUNDSSEN METHOD IN NORWAY.** By E. Kundsen. E. & M. J., vol. 87, p. 1080. 11½ columns. I.

**KUNDSSEN PROCESS OF PYRITIC CONVERTER SMELTING.** By O. Bergstrom. Min. & Sci. Press, vol. 98, p. 858. 2½ columns.

**NOTES AND COMMENTS ON THE PYRITIC PROCESS OF MOUNT LYELL, TASMANIA.** By R. Nicholls. P. C. M. & M. Soc. S. A., vol. 7, p. 135, 8 columns; p. 214, 4 columns; p. 290, 5 columns.

**PYRITIC SMELTING IN LEADVILLE.** By C. H. Doolittle and R. P. Jarvis. T. A. I. M. E., vol. 41, p. 709. 14 pages.

**PYRITIC SMELTING IN TILT COVE, NEWFOUNDLAND.** By F. S. Nicholls. E. & M. J., vol. 86, p. 462. 4½ columns. I.

#### **Reverberatory Smelting of Copper**

**REVERBERATORY VS. BLAST FURNACES.** By H. P. Collins. E. & M. J., vol. 89, p. 619. 2 columns.

**REVERBERATORY COPPER SMELTING.** By E. B. Wilson. M. & M., vol. 31, p. 557. 8½ columns. I.

**REGENERATIVE REVERBERATORY COPPER FURNACE.** By F. A. Leas. E. & M. J., vol. 86, p. 898. 8 columns. I.

**THEORETICAL NOTES ON REVERBERATORY FURNACES.** By C. A. Grabil. E. & M. J., vol. 89, p. 826. 8½ columns.

**REVERBERATORY FURNACE PRACTICE.** By W. A. Heywood. E. & M. J., vol. 89, p. 407. 1½ columns.

**RECENT REVERBERATORY SMELTING PRACTICE.** By R. R. Moore. E. & M. J., vol. 89, p. 1021, 10½ columns; p. 1063, 7½ columns.

**REVERBERATORY FURNACE SMELTING OF ORES.** By T. J. Dyson. T. Au. I. M. E., vol. 5, p. 71. 4½ pages.

**MAGNETIC OXIDE IN MATTE.** By E. L. Larison. E. & M. J., vol. 87, p. 1195. 3 columns.

**SMELTING COPPER IN SMALL REVERBERATORY FURNACES.** By E. M. Clark. Min. & Sci. Press, vol. 100, p. 579. 7 columns. I.

**OIL-FIRED REVERBERATORY FURNACES.** By R. L. Herrick. M. & M., vol. 30, p. 367. 4 columns. I.

**BURNING REVERBERATORY ASH AT THE STEPTOE PLANT.** By L. Duncan. E. & M. J., vol. 90, p. 1302. 2 columns.

**MODERN REVERBERATORY SMELTING OF COPPER ORE.** By C. Offerhaus. E. & M. J., vol. 85, p. 1189, 7 columns, I.; p. 1234, 12 columns, I.

**REVERBERATORY FURNACES AT BINGHAM, UTAH, IN THE YAMPA SMELTER.** M. & M., vol. 31, p. 15. 2 columns. I.

**EXPERIMENTS IN REVERBERATORY PRACTICE AT CANANEA, MEXICO.** By L. D. Ricketts. T. I. M. & M., vol. 19, p. 147. 39 pages. I.

**EXPERIMENTS IN REVERBERATORY PRACTICE, CANANEA.** By L. D. Ricketts. E. & M. J., vol. 89, p. 314. 15 columns. I.

- REVERBERATORY PRACTICE AT CERRO DE PASCO.** E. & M. J., vol. 89, p. 959. 2½ columns.
- Bessemerizing of Copper Matte**
- SUCCESSIVE STAGES IN FLAME OF COPPER CONVERTER.** By D. M. Levy. E. & M. J., vol. 90, p. 1207. 4 columns.
- OPERATION OF AN ANACONDA COPPER CONVERTER.** By C. Offerhaus. E. & M. J., vol. 86, p. 747. 17½ columns. I.
- THE BEHAVIOR OF COPPER-MATTE AND COPPER-NICKEL MATTE IN THE BESSEMER CONVERTER.** By D. H. Browne. T. A. I. M. E., vol. 41, p. 296. 20½ pages. D.
- COOLING COPPER CONVERTER SLAGS,** By F. C. Kelley. M. & M., vol. 29, p. 78. 2 columns. I.
- COPPER CONVERTERS, HYDRAULICALLY OPERATED.** By G. B. Shipley. Min. & Sci. Press, vol. 95, p. 375. 4 columns.
- MOVABLE CONVERTER HOODS.** By A. H. Wethey. E. & M. J., vol. 85, p. 100. 4 columns. I.
- THE LAIST AND TANNER MOVABLE CONVERTER HOOD.** By L. S. Austin. Min. & Sci. Press, vol. 95, p. 400. 2 columns. I.
- COPPER CONVERTER FLAMES.** By D. M. Levy. M. & M., vol. 31, p. 719. 2½ columns.
- RECENT PRACTICE IN COPPER MATTE CONVERTING.** By R. R. Moore. E. & M. J., vol. 90, p. 460. 16 columns. I.
- THE TREATMENT OF OVERBLOWN CHARGES IN COPPER CONVERTERS.** By A. R. McKenzie. E. & M. J., vol. 90, p. 1147. 2½ columns.
- MODERN TYPE OF THE BARREL COPPER CONVERTER.** By C. F. Shelby. E. & M. J., vol. 88, p. 815. 5 columns. I.
- THE VORTEX COPPER CONVERTER.** By H. Haas. E. & M. J., vol. 89, p. 972. 6½ columns. I.
- BASIC LINED CONVERTERS FOR LEADY COPPER MATTES.** By R. R. Moore. E. & M. J., vol. 90, p. 263. 5 columns.
- RECENT PATENTS FOR BASIC-LINED COPPER CONVERTERS.** By R. H. Vail. E. & M. J., vol. 89, p. 563. 6½ columns. I.
- COPPER CONVERTERS WITH BASIC LINING.** By R. R. Moore. E. & M. J., vol. 89, p. 1317. 11 columns.
- A MACHINE FOR CASTING CONVERTER COPPER.** By J. H. Klepinger. E. & M. J., vol. 85, p. 903. 5 columns. I.
- RELATIVE ELIMINATION OF IRON, SULPHUR, AND ARSENIC IN BESSEMERIZING COPPER-MATTES.** By E. P. Mathewson. T. A. I. M. E., vol. 38, p. 154. 6 pages.

### Refining of Copper

- ELECTROLYTIC COPPER REFINERY.** Min. & Sci. Press, vol. 101, p. 75. 1½ columns.
- ELECTROLYTIC REFINING OF COPPER.** By G. H. Blakemore. M. & M., vol. 30, p. 648. 8½ columns. I.
- ELECTROLYTIC REFINING OF COPPER.** By G. H. Blakemore. M. & M., vol. 30, p. 746. 9½ columns. I.
- A STUDY IN REFINING AND OVERPOLING ELECTROLYTIC COPPER.** By H. O. Hofman, R. Hayden, and H. B. Hallowell. T. A. I. M. E., vol. 38, p. 171. 24 pages. I.
- ELECTROLYTIC COPPER REFINING IN AUSTRALIA.** By G. H. Blackmore. E. & M. J., vol. 90, p. 717, 10½ columns, I.; p. 769, 6 columns.
- AN AUSTRALIAN ELECTROLYTIC COPPER REFINERY.** By R. G. Casey, Jr. E. & M. J., vol. 90, p. 1111. 11½ columns. I.
- EFFECT OF TEMPERATURE ON THE ELECTROLYSIS OF COPPER.** E. & M. J., vol. 86, p. 755. 2 columns.
- See also COST OF METALLURGICAL TREATMENT.

**Electro-Metallurgy**

ELECTRIC SMELTING OF ORE AT HERBOULT, CALIFORNIA. By J. Tysowski. E. & M. J., vol. 90, p. 269. 8½ columns. I.

ELECTRIC SMELTING WITH THE GIROD FURNACE. By W. Borchers. E. & M. J., vol. 88, p. 1113. 13½ columns. I.

ELECTRIC SMELTING IN SWEDEN. By E. J. Ljungberg. M. & M., vol. 30, p. 288. 2½ columns. I.

ELECTRIC SMELTING. By G. H. Clavenger. U. S. G. S., Mineral Resources, 1905. 12 pages.

THE ELECTRIC FURNACE: Its Place in Siderurgy. By P. McNiven Bennie. P. E. Soc. W. Pa., vol. 26, p. 487. 45 pages. I.

THE POSITION OF THE ELECTRIC FURNACE. By P. McN. Bennie. E. & M. J., vol. 88, p. 84. 1½ columns.

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THE STASSANO ELECTRIC FURNACE. By F. C. Perkins. M. & M., vol. 29, p. 277. 2 columns. I.

RECENT IMPROVEMENTS IN ELECTROLYTIC CELLS. By H. S. Renaud. E. & M. J., vol. 85, p. 405. 3½ columns. I.

NEW RESISTANCE AND INDUCTION FURNACES. By A. Gradenwitz. E. & M. J., vol. 87, p. 364. 3½ columns. I.

See also COST OF METALLURGICAL TREATMENT.

**Glass Making**

HISTORY OF GLASS MAKING. By G. A. Macbeth. P. E. Soc. W. Pa., vol. 23, p. 625. 21 pages. D.

QUESTIONS ARISING IN THE MAKING OF GLASS. By R. L. Frink. P. E. Soc. W. Pa., vol. 23, p. 646. 10 pages. I.

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See also OCCURRENCE OF GLASS SANDS.

**Metallurgy of Gold and Silver**

PREPARATION OF THE ORES OF SILVER-LEAD, AND COPPER, AND THEIR METALLURGICAL TREATMENT AT THE WORKS AT LOZÈRE, FRANCE. By M. Lau. Min. Mag., vol. 7, p. 219, 11½ pages; p. 470, 6 pages.

THE METALLURGICAL TREATMENT OF THE SULPHO TELLURIDE ORES OF KALGOORLIE, WITH SPECIAL REFERENCE TO EXPERIMENTS CONDUCTED AND SULPHIDE MILL ERECTED ON THE ASSOCIATED GOLD MINES OF WESTERN AUSTRALIA, LIMITED. By L. W. Grayson. T. Au. I. M. E., vol. 7, p. 170, 20 pages; vol. 8, pt. 1, p. 114, 13 pages.

EXTRACTION OF GOLD BY HYPOSULPHITE OF SODIUM, AND ROASTING ORE FOR CYANIDING. By E. Janitzky. T. Au. I. M. E., vol. 7, p. 99. 3 pages.

THE SOLUBILITY OF GOLD IN THIOSULPHATES AND THIOCYANATES. By H. A. White. P. C. M. & M., Soc. S. A., vol. 6, p. 109, 4½ columns; p. 197, 1 column; p. 225, 2 columns; p. 274, 1½ columns.

ON THE LIXIVIATION OF AN AURIFEROUS ARSENOPYRITE CONCENTRATE. By T. T. Fulton. J. M. Soc. N. S., vol. 10, p. 97. 27½ pages. D.

THIOCARBANIDE: A New Solvent for Gold. By J. Moir. P. C. M. & M. Soc. S. A., vol. 6, p. 332. 9 columns.

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See also CYANIDING GOLD, ETC., METALLURGY OF LEAD, and COST OF METALLURGICAL TREATMENT.

**Smelting Gold and Silver**

**BLAST FURNACE GASES IN SILVER-LEAD SMELTING.** By L. S. Austin. Min. & Sci. Press, vol. 97, p. 364. 1½ columns.

**HEAT OF FUSION OF SILVER-LEAD BLAST FURNACE SLAG.** By L. S. Austin. Min. & Sci. Press, vol. 96, p. 567. ½ column.

**CALCULATION OF A SILVER-LEAD BLAST FURNACE CHARGE.** By J. A. Barr. Min. & Sci. Press, vol. 101, p. 672, 3 columns; p. 710, 3 columns.

**SILVER-LEAD SMELTING IN TASMANIA.** By T. Kapp. E. & M. J., vol. 89, p. 727. 3½ columns.

**SILVER-LEAD SMELTING PRACTICE.** By L. S. Austin. Min. & Sci. Press, vol. 95, p. 59. 1½ columns.

**SILVER-LEAD SMELTING AT EAST HELENA, MONTANA.** E. & M. J., vol. 87, p. 350. 1 column.

**SMELTER OF PENOLES COMPANY, MAPIMI, MEXICO.** By C. T. Rice. E. & M. J., vol. 86, p. 373. 6 columns. I.

**MODERN SILVER-LEAD SMELTING AT LAURIUM, GREECE.** By H. F. Collins. E. & M. J., vol. 87, p. 881. 8½ columns. I.

See also **THE METALLURGY OF LEAD.**

**CHANCELLORSVILLE GOLD AND SILVER ORE REDUCTION COMPANY.** Min. Mag., vol. 9, p. 451. 4 pages.

**METALLURGICAL CONDITIONS AT COBALT, ONTARIO, CANADA, 1908.** By F. N. Flynn. J. C. M. I., vol. 11, p. 293. 42 pages.

**THE SMELTING OF COBALT ORES.** By H. W. Hixon. J. C. M. I., vol. 10, p. 74. 2½ pages.

**THE REDUCTION OF AURIFEROUS ORES.** By C. F. Stansbury. Min. Mag., vol. 2, p. 239. 5½ pages.

**METALLURGY OF THE KALGOORLIE GOLDFIELD.** By G. W. Williams. E. & M. J., vol. 85, p. 345. 11 columns. I.

**THE PEARCE GOLD-SEPARATION PROCESS.** By H. V. Pearce. T. A. I. M. E., vol. 39, p. 722. 12 pages.

**Cyaniding, Processes, Theory, Etc.**

**THE ACTION OF CYANIDE OF POTASSIUM ON GOLD AND SOME OTHER METALS AND MINERALS.** By G. A. Goyder. T. Au. I. M. E., vol. 1, p. 84. 15 pages. I.

**THEORY OF THE DISSOLUTION OF METALS BY CYANIDE.** By J. B. Stuart. Min. & Sci. Press, vol. 101, p. 180. 2½ columns.

**CYANIDATION OF ORE CONTAINING BOTH COARSE AND FINE GOLD.** Min. & Sci. Press, vol. 95, p. 709, 2½ columns; p. 742, 1 column; p. 775, 2½ columns.

**TESTS ON ACID REGENERATION OF CYANIDE SOLUTIONS.** By R. P. Wheelock. Min. & Sci. Press, vol. 99, p. 814. 10 columns. I.

**TABLE FOR STANDARDIZING SUMP SOLUTIONS.** By C. W. Hess. Min. & Sci. Press, vol. 101, p. 445. Table.

**THE DETERMINATION OF CONSTANTS IN WORKING CYANIDE SOLUTIONS.** By G. W. Williams. P. C. M. & M. Soc. S. A., vol. 5, p. 13, 7½ columns; p. 54, 7½ columns.

**RAPID ESTIMATION OF PULP IN CYANIDE TANKS.** By M. R. Lamb. E. & M. J., vol. 89, p. 160. 2 columns.

**SPECIFIC GRAVITY ESTIMATION OF PULP.** By F. B. Hyder. M. & M., vol. 31, p. 715. 3½ columns. D.

**CARBON AND CELLULOSE IN CYANIDE SOLUTIONS.** By A. J. Clark and W. J. Sharwood. Min. & Sci. Press, vol. 100, p. 554. 5 columns.

**GRAPHITE: An Obstacle to Good Cyaniding.** By M. W. Von Bernewitz. Min. & Sci. Press, vol. 99, p. 758. 2½ columns. I.

**TWO DETERRENTS TO THE DISSOLUTION OF FREE GOLD IN THE CYANIDE PROCESS.** By D. Simpson. T. I. M. & M., vol. 17, p. 330. 1 page.

- CYANIDATION OF RAW PYRITIC CONCENTRATES.** P. C. M. & M. Soc. S. A., vol. 7, p. 422.  $\frac{1}{2}$  column.
- CYANIDATION OF SULPHIDES.** By M. N. Colman. Min. & Sci. Press, vol. 101, p. 308. 3 columns.
- RECOVERY OF ZINC FROM SOLUTIONS.** M. & M., vol. 30, p. 378.  $1\frac{1}{2}$  columns.
- THE LABORATORY IN ITS RELATION TO THE CYANIDE PROCESS.** By G. A. Byrn. T. Au. I. M. E., vol. 4, p. 173.  $13\frac{1}{2}$  pages.
- THE ELIMINATION OF GOLD BEARING SOLUTION FROM SANDS.** By W. A. Caldecott and A. McA. Johnston. P. C. M. & M. Soc. S. A., vol. 8, p. 153.  $1\frac{1}{2}$  columns. I.
- OXIDATION AND CYANIDATION.** By H. A. Megraw. E. & M. J., vol. 88, p. 645.  $4\frac{1}{2}$  columns. D.
- THE DESTRUCTION OF CYANIDE.** By J. Moir. P. C. M. & M. Soc. S. A., vol. 10, p. 433.  $3\frac{1}{2}$  columns. D.
- CHEMISTRY OF THE BROMO-CYANOGEN PROCESS.** By S. H. Warrell. Min. & Sci. Press, vol. 98, p. 356.  $2\frac{1}{2}$  columns.
- See also CHEMICAL ANALYSIS IN CYANIDING.
- BROMO-CYANIDING OF GOLD ORES.** By E. W. Nardin. Min. & Sci. Press, vol. 97, p. 562.  $5\frac{1}{2}$  columns.
- BROMO-CYANIDING OF GOLD ORES.** By E. W. Nardin. T. Au. I. M. E., vol. 12, p. 69. 10 pages.
- ACTION OF ALKALINE SOLUTIONS IN CYANIDING.** P. C. M. & M. Soc. S. A., vol. 8, p. 281.  $2\frac{1}{2}$  columns.
- LIME REACTION IN CYANIDING.** By T. P. Holt. M. & M., vol. 31, p. 475.  $1\frac{1}{2}$  columns.
- NOTES ON THE ESTIMATION OF CAUSTIC LIME.** By E. H. Croghan. P. C. M. & M. Soc. S. A., vol. 8, p. 37, 11 columns; p. 84,  $1\frac{1}{2}$  columns; p. 122, 11 columns; p. 145,  $\frac{1}{2}$  column; p. 183, 8 columns; p. 206, 6 columns.
- LABORATORY TESTS ON THE USE OF COARSE AND FINE LIME FOR CYANIDING.** By W. J. Sharwood. P. C. M. & M., Soc. S. A., vol. 8, p. 293.  $9\frac{1}{2}$  columns. D.
- AUTOMATIC ZINC DUST FEEDER.** By J. S. Colbath. E. & M. J., vol. 89, p. 453. 2 columns. I.
- A NOVEL WASHING AND LEACHING APPARATUS.** By A. Gradenwitz. E. & M. J., vol. 86, p. 227. 2 columns. I.
- NEW CYANIDE DEVICE.** By L. Fraser. Min. & Sci. Press, vol. 101, p. 504.  $2\frac{1}{2}$  columns. I.
- A CHEAP FORM OF CYANIDE PLANT.** By C. Hunter. T. I. M. & M., vol. 17, p. 268. 8 pages.
- HOME-MADE CYANIDE PLANT.** By W. F. Boericke and B. L. Eastman. Min. & Sci. Press, vol. 97, p. 712.  $1\frac{1}{2}$  columns.
- A ROTARY EXTRACTOR FOR PRECIOUS METALS FROM SOLUTIONS.** By W. D'Arcy and E. T. Rand. P. C. M. & M., Soc. S. A., vol. 10, p. 201. 6 columns. I.
- THE KIDNEY PULP DISTRIBUTOR.** By C. T. Rice. E. & M. J., vol. 90, p. 1046.  $3\frac{1}{2}$  columns. I.
- CYANIDATION WITH THE BROWN VAT.** By F. Narvaez. Min. & Sci. Press, vol. 95, p. 689.  $1\frac{1}{2}$  columns. I.
- A MODIFICATION OF PACHUCA-TANK PRACTICE.** By A. J. Yager. Min. & Sci. Press, vol. 101, p. 539. 2 columns. I.
- CONTINUOUS AGITATION SYSTEM AT ESPERANZA.** By M. A. Kuryla. E. & M. J., vol. 90, p. 213.  $3\frac{1}{2}$  columns. I.
- AIRLIFT AGITATION IN CYANIDING.** P. C. M. & M. Soc. S. A., vol. 8, p. 358.  $1\frac{1}{2}$  columns.
- NOTES ON AIR AGITATION.** By M. R. Lamb. E. & M. J., vol. 86, p. 901. 3 columns.
- AGITATION BY COMPRESSED AIR.** By F. C. Brown. Min. & Sci. Press, vol. 97, p. 424.  $6\frac{1}{2}$  columns. I.

- ASSISTING THE SOLUTION OF GOLD IN THE CYANIDE PROCESS BY COMPRESSED AIR. By A. F. Crosse. P. C. M. & M. Soc. S. A., vol. 8, p. 36. 1 column.
- See also COMPRESSED AIR IN MINING.
- CYANIDE LIXIVIATION BY AGITATION. By W. M. Brodie. E. & M. J., vol. 87, p. 695. 3½ columns. I.
- A NEW METHOD OF AGITATING CYANIDE PULPS. By E. G. Spilsbury. E. & M. J., vol. 89, p. 662. 3 columns.
- METHODS OF PULP AGITATION. By L. M. Kniffen. Min. & Sci. Press, vol. 100, p. 824. 2½ columns.
- AGITATOR FOR CYANIDE TESTS. By G. H. Clevenger. Min. & Sci. Press, vol. 98, p. 759. 1 column. I.
- BROWN TYPE OF LABORATORY AGITATOR. By T. S. Lawlor. Min. & Sci. Press, vol. 99, p. 197. 2½ columns. I.
- COMBINED AGITATOR AND VACUUM-FILTER FOR CYANIDING. Min. & Sci. Press, vol. 96, p. 459. 1 column. I.
- PRESENT TENDENCIES IN CYANIDE PRACTICE. By M. R. Lamb. E. & M. J., vol. 90, p. 855. 11¼ columns.
- PROGRESS IN CYANIDATION IN 1909. By A. James. Min. & Sci. Press, vol. 98, p. 47. 13 columns. I.
- IMPROVEMENTS IN THE CYANIDE PROCESS. By B. MacDonald. Min. & Sci. Press, vol. 100, p. 798. 4 columns. I.
- CYANIDE PRACTICE. By A. James. Min. & Sci. Press, vol. 100, p. 41. 12 columns. I.
- PROPOSED SIMPLIFICATION OF THE CYANIDE PROCESS. By B. Mierisch. E. & M. J., vol. 89, p. 1327. 4 columns. I.
- PROGRESS AND DEVELOPMENTS IN CYANIDE PRACTICE. By M. R. Lamb. E. & M. J., vol. 89, p. 178. 5 columns.
- HISTORY OF CYANIDATION. By P. Argall. Min. & Sci. Press, vol. 95, p. 655, 5½ columns; p. 682, 6½ columns.
- PROGRESS IN CYANIDATION. By A. James. E. & M. J., vol. 87, p. 1194. 3 columns.
- NOTES ON CYANIDATION. By L. D. Bishop. E. & M. J., vol. 87, p. 842. 6½ columns. I.
- IMPROVEMENT IN CYANIDE PRACTICE. By E. G. Spilsbury. T. A. I. M. E., vol. 41, p. 367. 12 pages. I.
- BEGINNINGS OF CYANIDATION. By J. McCombie. Min. Mag. London, vol. 4, p. 456. 2 columns.
- DEVELOPMENTS IN CYANIDE PRACTICE. By P. E. Barbour. M. & M., vol. 31, p. 597. 8 columns. I.
- SOME MODERN METHODS IN ORE TREATMENT BY CYANIDATION. By E. O. Watt. T. Au. I. M. E., vol. 9, p. 76. 18 pages. I.
- NOTES ON THE WORKING OF THE McARTHUR-FOREST PROCESS FOR EXTRACTING GOLD. By G. A. Goyder. T. Au. I. M. E., vol. 3, p. 159. 12 pages.
- THE CLANCY PROCESS: Lixivation Process. By J. C. Clancy. Min. & Sci. Press, vol. 101, p. 862. 5½ columns.
- THE CLANCY CYANIDE PROCESS. M. & M., vol. 31, p. 433. 3 columns.
- THE ADAIR-USHER PROCESS. By A. Adair. P. C. M. & M. Soc. S. A., vol. 8, p. 331, 18½ columns, D.; vol. 9, p. 23, 2 columns; p. 48, 5 columns; p. 94, 5 columns; p. 118, 3 columns; p. 158, 7½ columns.
- THE NEW CLANCY CYANIDE PATENTS. E. & M. J., vol. 90, p. 701. 9 columns.
- RECENT DEVELOPMENTS IN THE ATTEMPT TO AMEND THE CYANIDE PATENT. By G. G. Turri. T. Au. I. M. E., vol. 4, p. 195. 20 pages.
- CYANIDATION OF CONCENTRATE. By F. C. Brown. Min. & Sci. Press, vol. 101, p. 273. 1½ columns.

- CYANIDING CONCENTRATE AT TARACOL, KOREA.** By J. D. Hubbard. Min. & Sci. Press, vol. 99, p. 471. 5½ columns.
- NOTES ON THE CYANIDE TREATMENT OF CONCENTRATES.** By A. Grothe. E. & M. J., vol. 88, p. 668. 3½ columns. I.
- CYANIDATION OF CONCENTRATES.** By A. E. Drucker. Min. & Sci. Press, vol. 100, p. 416. 4½ columns. I.
- NOTE ON THE CYANIDING OF CONCENTRATES BY PERCOLATION.** By A. L. Edwards. P. C. M. & M. Soc. S. A., vol. 5, p. 345. 1½ columns.
- LAST DRAININGS.** By H. A. White. P. C. M. & M. Soc. S. A., vol. 7, p. 239, 9 columns, D.; p. 329, 4 columns; p. 407, 8 columns, D.; vol. 8, p. 15, 2½ columns.
- A QUICK TREATMENT BY CYANIDE OF "BLACK SANDS."** By B. V. Burnett. P. C. M. & M. Soc. S. A., vol. 6, p. 240, 2 columns; p. 277, 1 column; p. 316, 1 column; p. 344, 1½ columns.
- ELECTROCHEMISTRY OF SOLUTION OF GOLD IN POTASSIUM CYANIDE.** P. C. M. & M. Soc. S. A., vol. 10, p. 21. 2½ columns.
- CONTINUOUS COLLECTION OF SAND FOR CYANIDING.** By W. A. Caldecott. Min. & Sci. Press, vol. 99, p. 659. 4 columns.
- THE CONTINUOUS COLLECTION OF SAND FOR CYANIDING.** By W. A. Caldecott. P. C. M. & M. Soc. S. A., vol. 10, p. 43, 2½ columns, I.; p. 142, 2 columns; p. 238, 2½ columns.
- SAND COLLECTING AND WASHING.** P. C. M. & M. Soc. S. A., vol. 8, p. 391. 1½ columns.
- See also **SAND TREATMENT.**
- NOTES ON THE PRECIPITATING EFFECTS OF SUBSTANCES CONTAINING VARIOUS FORMS OF CARBON AND CELLOLULOSE ON CYANIDE SOLUTIONS CONTAINING GOLD AND SILVER.** By A. J. Clark and W. J. Sharwood. P. C. M. & M. Soc. S. A., vol. 10, p. 234, 8 columns; p. 405, 1 column.
- PRECIPITATION FROM CYANIDE SOLUTIONS BY ZINC SHAVINGS AND DUST: A Comparison of Results and Costs.** By A. J. Clark. P. C. M. & M. Soc. S. A., vol. 9, p. 222, 3 columns; vol. 10, p. 205, 3 columns.
- EXPERIMENTS ON THE PRECIPITATION OF GOLD FROM CYANIDE SOLUTION BY CARBON IN LIME.** By E. H. Croghan. P. C. M. & M. Soc. S. A., vol. 10, p. 391. 5 columns.
- PRECIPITATION OF GOLD BY CARBONACEOUS MATTER.** By W. A. Caldecott. Min. & Sci. Press, vol. 98, p. 828. 1½ columns.
- ZINC BOX WHITE PRECIPITATES.** By R. F. Coolidge. Min. & Sci. Press, vol. 99, p. 394. 4 columns.
- ELECTRICAL PRECIPITATION FROM CYANIDE SOLUTIONS.** E. & M. J., vol. 89, p. 598. 1½ columns.
- ELECTROLYTIC PRECIPITATION.** By M. R. Lamb. E. & M. J., vol. 87, p. 705. 2 columns.
- PRECIPITATION OF GOLD AND SILVER BY SOLUBLE SULPHIDES.** E. & M. J., vol. 87, p. 841. 1½ columns.
- NOTES ON PRECIPITATION.** By M. Smith. P. C. M. & M., Soc. S. A., vol. 9, p. 300. 4½ columns; p. 351, 1½ columns.
- ZINC DUST PRECIPITATION.** By A. J. Clark. Min. Mag. London, vol. 4, p. 289. 7½ columns. I.
- ZINC DUST PRECIPITATION AT THE HOMESTAKE MINE.** By R. Linton. E. & M. J., vol. 88, p. 199. 1½ columns.
- ZINC DUST PRECIPITATION AT CERRO-PRIETO.** By R. Linton. P. C. M. & M. Soc. S. A., vol. 10, p. 60. 2½ columns.
- ZINC DUST PRECIPITATION AT MERCUR, UTAH.** E. & M. J., vol. 86, p. 79. 1 column.
- ZINC DUST PRECIPITATION AT CERRO-PRIETO.** By Robt. Linton. P. C. M. & M. Soc. S. A., vol. 9, p. 74, 5 columns; p. 165, 3 columns; p. 207, 1½ columns; p. 232, 1 column.

- ZINC BOX PRECIPITATION AT PARRAL, MEXICO.** E. & M. J., vol. 86, p. 122. 1½ columns.
- THE "WHITE PRECIPITATE" OF THE PRECIPITATING BOXES IN THE CYANIDE WORKS.** By A. Prister. P. C. M. & M. Soc. S. A., vol. 5, p. 62, 1 column; p. 75, 8 columns; p. 129, 10½ columns; p. 148, 5½ columns; p. 171, 6 columns; p. 310, 1½ columns.
- DE WILDE PRECIPITATION PROCESS.** By G. Witteveen. M. & M., vol. 31, p. 342. 3½ columns.
- THE TREATMENT OF SLIMES BY CYANIDATION AND ELECTRICAL PRECIPITATION ON MERCURY.** By F. T. Mumford. T. Au. I. M. E., vol. 9, p. 96. 10 pages. I.
- CYANIDING SLIME.** By M. R. Lamb. T. A. I. M. E., vol. 40, p. 775. 4½ pages. I.
- SLIME TREATMENT IN CYANIDING.** T. A. I. M. E., vol. 40, p. 768. 6 pages. I.
- CYANIDING SLIME.** T. A. I. M. E., vol. 40, p. 775. 4½ pages. I.
- SETTLING SLIME IN CYANIDE TREATMENT.** P. C. M. & M. Soc. S. A., vol. 9, p. 411. 1 column.
- IMPROVEMENTS IN SLIME TREATMENT.** By M. Torrente. P. C. M. & M. Soc. S. A., vol. 5, p. 46, 6½ columns, I.; p. 83, 1½ columns; p. 100, 1½ columns; p. 127, 3 columns; p. 150, 4 columns; p. 179, 3½ columns.
- NOTES ON IMPROVEMENTS IN THE CYANIDE TREATMENT OF SANDS AND SLIMES.** By C. H. Pead. P. C. M. & M. Soc. S. A., vol. 6, p. 76, 4 columns; p. 194, 2 columns; p. 223, 3 columns; p. 249, 3½ columns.
- COLLOIDAL SILICIC ACID IN SLIMES.** By W. A. Caldecott. P. C. M. & M. Soc. S. A., vol. 7, p. 217. 1 column.
- THE TREATMENT OF ACCUMULATED SLIME, AND THE USE OF FILTER PRESSES FOR CLARIFYING SLIME SOLUTION AND BY-PRODUCTS.** By J. D. O'Hara. P. C. M. & M. Soc. S. A., vol. 10, p. 342, 5 columns; p. 403, 2 columns, I.
- TREATMENT OF A CONCENTRATE-SLIME.** By A. E. Drucker. Min. & Sci. Press, vol. 96, p. 458. 5 columns. I.
- THE SEPARATION OF SLIME IN CYANIDE TREATMENT.** By H. G. Nichols. Min. & Sci. Press, vol. 96, p. 563. 7 column. I.
- TREATMENT OF SLIME IN THE CYANIDE PROCESS.** Min. & Sci. Press, vol. 100, p. 798. 4 columns. I.
- SLIME TREATMENT IN CYANIDING.** Min. & Sci. Press, vol. 100, p. 44. 5 columns. I.
- A METHOD OF SETTLING SLIMES, AS APPLIED TO THEIR SEPARATION FROM SOLUTION IN CYANIDE TREATMENT.** By H. G. Nichols. T. I. M. & M., vol. 17, p. 293. 38 pages. I.
- CYANIDE TREATMENT OF SLIME.** P. C. M. & M. Soc. S. A., vol. 10, p. 322. 3½ columns.
- METHOD OF TESTING SLIME.** By G. J. Young. Min. Mag., London, vol. 3, p. 133. 2½ columns. I.
- SLIME TREATMENT BY CYANIDATION.** E. & M. J., vol. 88, p. 688. 5½ columns.
- A PROPOSED NEW SYSTEM FOR THE CYANIDE TREATMENT OF SLIMES.** By F. McCann. E. & M. J., vol. 88, p. 688. 5½ columns.
- CYANIDING SLIMES.** E. & M. J., vol. 89, p. 462. 1½ columns. I.
- ALL-SLIME TREATMENT OF ORE IN CYANIDE PLANTS.** By H. A. Me-raw. E. & M. J., vol. 89, p. 319. 5 columns. I.
- CYANIDING SLIMES.** E. & M. J., vol. 89, p. 319. 5 columns. I.
- CYANIDING SLIME: Process.** By E. B. Wilson. M. & M., vol. 29, p. 59. 6 columns. I.
- SLIME TREATMENT IN CYANIDING.** By E. B. Wilson. M. & M., vol. 29, p. 59. 6 columns. I.

- SLIME TREATMENT IN CYANIDING.** M. & M., vol. 29, p. 129, 9 columns, I.; p. 187, 3 columns, I.; p. 224, 6 columns, I.
- SLIMING ORE FOR CYANIDATION.** By M. R. Lamb. Min. & Sci. Press, vol. 95, p. 658. 1½ columns.
- SLIME SETTLING BEFORE CYANIDING.** E. & M. J., vol. 87, p. 837. 3 columns. I.
- ALL-SLIMING.** By E. M. Hamilton. Min. & Sci. Press, vol. 99, p. 255. 5½ columns. I.
- THE CHEMICAL CONTROL OF SLIMES.** By H. E. Ashley. T. A. I. M. E., vol. 41, p. 380. 16 pages. I.
- SLIME TREATMENT AT VARIOUS CYANIDE PLANTS.** Min. & Sci. Press, vol. 95, p. 46. 4½ columns.
- THE UTILIZATION OF WASTE HEAT IN SLIMES TREATMENT.** By A. Salkinson. P. C. M. & M. Soc. S. A., vol. 7, p. 403, 6 columns; vol. 8, p. 52, 1 column; p. 81, 7½ columns; p. 142, 6½ columns.
- FURTHER NOTES ON THE UTILIZATION OF WASTE HEAT IN SLIMES TREATMENT.** By A. Salkinson. P. C. M. & M. Soc. S. A., vol. 9, p. 308. 3½ columns.
- PROPOSED PROCESS FOR TREATMENT OF ZINC GOLD SLIMES BEFORE SMELTING.** By C. E. Meyer. P. C. M. & M. Soc. S. A., vol. 6, p. 361, 6 columns; p. 83, 1 column; p. 139, 2 columns.
- THE DORR CONTINUOUS SLIME THICKENER.** M. & M., vol. 30, p. 79. 1½ columns. I.
- SLIME TREATMENT AT KALGOORLIE.** By M. W. von Bernewitz. Min. & Sci. Press, vol. 95, p. 743. 2 columns. I.
- SLIME TREATMENT AT THE SANTA NATALIA MILL.** By C. Shapeley. E. & M. J., vol. 90, p. 358. 4 columns. I.
- ALL-SLIME CYANIDE PROCESS AT HACIENDA DE LA UNION.** E. & M. J., vol. 86, p. 991. 2 columns.
- SLIME TREATMENT AT THE TATO, ROSARIO MILL, MEXICO.** T. A. I. M. E., vol. 41, p. 345. 11 pages. I.
- SLIME TREATMENT AT THE NORTH STAR MINES, CALIFORNIA.** E. & M. J., vol. 90, p. 410. 1 column.
- FILTER PRESS TREATMENT OF SLIMES.** By H. R. Edmans. T. Au. I. M. E., vol. 41, p. 77. 19½ pages. I.
- NOTES ON THE USE OF THE FILTER PRESS FOR CLARIFYING SOLUTIONS.** By S. J. Truscott and A. Yates. P. C. M. & M. Soc. S. A., vol. 7, p. 3, 2½ columns; p. 45, 2 columns; p. 83, 2 columns; p. 269, ½ column; p. 321, 2 columns.
- FILTERING SLIMES.** By E. Parrish. Min. & Sci. Press, vol. 99, p. 493. 2½ columns.
- FILTER PRESS WORK.** M. & M., vol. 31, p. 600. 1 column. I.
- FILTER PRESSING SLIMES.** By M. W. von Bernewitz. Min. & Sci. Press, vol. 101, p. 377. 3 columns.
- FILTER PRESS WORK IN CYANIDING CONCENTRATE.** Min. & Sci. Press, vol. 100, p. 416. 3 columns. I.
- VACUUM FILTRATION.** By A. Nichols. Min. & Sci. Press, vol. 100, p. 395. 2 columns. I.
- FILTER PRESSING.** P. C. M. & M. Soc. S. A., vol. 10, p. 222. ½ column.
- THE FILTER PRESS IN CYANIDING.** By E. B. Wilson. M. & M., vol. 29, p. 129, 9 columns, I.; p. 187, 3 columns, I.; p. 224, 6 columns, I.
- FILTERING SLIMES IN CYANIDING.** Min. & Sci. Press, vol. 95, p. 715. 3 columns. I.
- FILTERING GOLD SLIME.** By E. Jensen. E. & M. J., vol. 87, p. 902. 2 columns. I.
- CONTINUOUS VACUUM-FILTER MACHINE.** By B. Hunt. Min. & Sci. Press, vol. 97, p. 430. 3 columns. I.
- CONTINUOUS SLIME FILTER.** By R. Schorr. Min. & Sci. Press, vol. 97, p. 194. 4 columns. I.

**OLIVER CONTINUOUS FILTER.** By A. H. Martin. Min. & Sci. Press, vol. 99, p. 715. 2 columns. I.

**USE OF THE OLIVER CONTINUOUS FILTER AT THE NORTH STAR MINES, CALIFORNIA.** E. & M. J., vol. 90, p. 411. 1 column. I.

**THE OLIVER FILTER PRESS AT GRASS VALLEY.** E. & M. J., vol. 87, p. 440. ½ column. I.

**THE OLIVER CONTINUOUS FILTER AT MINAS DEL TATO.** By G. A. Tweedy and R. L. Beals. E. & M. J., vol. 89, p. 506. 5 columns. I.

**THE BURT RAPID CYANIDE FILTER.** By E. Burt. Min. & Sci. Press, vol. 95, p. 717. 3½ columns. I.

**THE BUTTERS' SLIME-FILTER AT THE CYANIDE PLANT OF THE COMBINATION MINES COMPANY, GOLDFIELD, NEVADA.** By M. R. Lamb. T. A. I. M. E., vol. 38, p. 200. 10 pages. I.

**THE BUTTERS' FILTER USED AT THE MONTEZUMA MILL, COSTA RICA.** E. & M. J., vol. 90, p. 716. ¼ column.

**THE SWEETLAND FILTER PRESS.** By E. J. Sweetland. E. & M. J., vol. 85, p. 359. 3 columns. I.

**THE HUNT CONTINUOUS SLIME FILTER.** P. C. M. & M. Soc. S. A., vol. 10, p. 295. 1½ columns.

**FILTERING SLIMES BY RIDGEWAY FILTER.** E. & M. J., vol. 86, p. 121. 1 column.

**PRESSURE FILTRATION.** By E. J. Sweetland. Min. & Sci. Press, vol. 99, p. 853. 4½ columns. I.

**THE BLAISDELL PRESSURE FILTER.** Min. & Sci. Press, vol. 95, p. 188. 1 column. I.

**VACUUM SLIME-FILTERS AT GOLDFIELD.** By A. M. Smith. Min. & Sci. Press, vol. 99, p. 65. 2 columns.

**THE FAIRCHILD VACUUM-FILTER.** Min. & Sci. Press, vol. 95, p. 279. 1 column. I.

**VACUUM SLIME-FILTERS.** Min. & Sci. Press, vol. 95, p. 46. 4½ columns.

**IMPROVEMENTS IN THE TREATMENT OF SLIME BY THE VACUUM-FILTER PROCESS.** By A. W. Allen. E. & M. J., vol. 87, p. 1004. 3 columns. I.

**VACUUM-FILTER TREATMENT OF SLIMES.** E. & M. J., vol. 87, p. 1004. 3 columns. I.

**VACUUM-FILTERING OF SLIME AT WAIHI, NEW ZEALAND.** P. C. M. & M. Soc. S. A., vol. 8, p. 13. 2 columns.

**FILTRATION OF SLIMES AT EL ORO, MEXICO.** By D. L. H. Forbes. E. & M. J., vol. 86, p. 458. 3½ columns. I.

**FILTER PRESSES AT THE TATO, ROSARIO MILL, MEXICO.** T. A. I. M. E., vol. 41, p. 349. 12 pages.

**FILTER PRESS PRACTICE IN THE HOME-STAKE MILLS.** Min. & Sci. Press, vol. 95, p. 21. 4½ columns. I.

**SLIME TREATMENT AT THE EL ORO MILL, MEXICO.** E. & M. J., vol. 87, pp. 688 and 689. 4 columns.

See also SLIMES AND THEIR TREATMENT.

**SOME SUGGESTIONS ON THE CYANIDING OF TAILINGS.** By A. Prister. P. C. M. & M. Soc. S. A., vol. 5, p. 338, 6½ columns; vol. 6, p. 113, 1½ columns; p. 190, ¼ column.

**A PROPOSED METHOD OF TREATING SAND RESIDUE DUMPS.** By S. J. Truscott and A. Yates. P. C. M. & M. Soc. S. A., vol. 6, p. 213. 3½ columns; vol. 7, p. 293, 3 columns.

**THE CYANIDING OF REFRACTORY TAILINGS ON THE WITWATERSRAND.** By W. H. C. Lovely. T. A. I. M. E., vol. 11, p. 104. 9 pages.

**RE-TREATMENT OF TAILING AT OROYA-BROWNHILL.** Min. Mag. London, vol. 4, p. 460. 1½ columns. I. Flowsheet.

See also SAND TREATMENT.

- CYANIDATION OF SILVER ORES.** By W. J. Sharwood. Min. & Sci. Press, vol. 97, p. 418. 5 columns.
- CYANIDATION OF MANGANESE SILVER ORES.** By E. M. Hamilton. Min. & Sci. Press, vol. 99, p. 756. 2½ columns.
- CYANIDATION OF SILVER ORES.** By F. P. Holt. Min. & Sci. Press, vol. 98, p. 546. 4 columns. Tables.
- CYANIDATION OF SILVER ORES.** By T. P. Holt. Min. & Sci. Press, vol. 99, p. 159. 6½ columns. D.
- CYANIDATION OF SILVER ORES.** By D. Mosher. Min. & Sci. Press, vol. 98, p. 691. 5½ columns. I.
- CYANIDATION OF SILVER ORES.** By L. B. Kniffin. Min. & Sci. Press, vol. 100, p. 322. 1½ columns.
- TREATMENT OF THE MOUNT REID AURIFEROUS ORES WITH THE HELP OF CYANIDE OF POTASSIUM.** By L. Williams. T. Au. I. M. E., vol. 4, p. 45. 5 pages.
- EXPERIMENTS ON THE ASSAY OF ACID WASHES RESULTING FROM THE CYANIDE "CLEAN-UP" BY THE USE OF BISULPHATE.** By L. J. Wilmoth. P. C. M. & M. Soc. S. A., vol. 10, p. 136. 5½ columns.
- THE USE OF THE BISULPHATE OF SODIUM IN THE CLEAN-UP.** By J. E. Thomas and G. W. Williams. P. C. M. & M. Soc. S. A., vol. 5, p. 334, 7 columns; vol. 6, p. 82, 4 columns; p. 113, ¾ columns, p. 156, 3 columns.
- CYANIDE WORKS' CLEAN-UP PRACTICE.** By J. E. Thomas. P. C. M. & M. Soc. S. A., vol. 7, p. 109, 3 columns; p. 181, 2½ columns; p. 211, 5 columns; p. 268, 1½ columns.
- NOTES ON LIME, CLEAN-UP, ETC.** By G. W. Williams. P. C. M. & M. Soc. S. A., vol. 5, p. 251, 7½ columns; p. 314, 2 columns; vol. 6, p. 19, 4 columns; p. 51, 3 columns; p. 78, 5 columns.
- SOME FURTHER IMPROVEMENTS IN APPLIANCES FOR THE CYANIDE CLEAN-**
- UP. By D. V. Burnett. P. C. M. & M. Soc. S. A., vol. 5, p. 145, 5 columns, I.; p. 211, 1½ columns; p. 235, 2½ columns; p. 255, 1½ columns.
- CYANIDATION AT THE ALASKA-TREADWELL MINES.** By T. A. Rickard. Min. Mag., London, vol. 3, p. 280. 2 columns.
- CYANIDING CRIPPLE CREEK DUMPS.** M. & M., vol. 29, p. 444. ¾ column.
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- CYANIDING AT THE NORTH STAR MINES IN CALIFORNIA.** By J. Tyssowski. E. & M. J., vol. 90, p. 409. 8½ columns. I.
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- CYANIDING AT MINAS DEL TATO, SINALOA.** E. & M. J., vol. 89. 7 columns. I.
- CYANIDE PRACTICE AT MINAS DEL TATO, SINALOA, MEXICO.** By G. A. Tweedy and R. L. Beals. E. & M. J., vol. 89, p. 566. 12 columns. I.
- CYANIDE PRACTICE AT EL TATO MILL, JALISCO, MEXICO.** E. & M. J., vol. 89, p. 274. 1½ columns. I.

- THE CYANIDE PRACTICE AT THE EL ORO MILL, MEXICO. E. & M. J., vol. 87, p. 683. 23 columns. I.
- CYANIDING AT TATO, ROSARIO, MEXICO. T. A. I. M. E., vol. 41, p. 339. 30 pages. I.
- NOTES ON THE CYANIDATION OF SILVER-GOLD ORES AT GUANAJUATO, MEXICO. By J. A. Reid. J. M. Soc. N. S., vol. 14, p. 37. 12½ pages.
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See also THE METALLURGY OF GOLD AND SILVER.

See also COST OF METALLURGICAL TREATMENT.

### Cyaniding Plants

VARIABLES INFLUENCING CYANIDE PLANT DESIGN. By M. R. Lamb. E. & M. J., vol. 90, p. 8.  $2\frac{1}{2}$  columns.

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VETA COLORADO CYANIDE MILL, PARRAL, MEXICO. By C. T. Rice. E. & M. J., vol. 86, p. 120. 8 columns.

AN ALL-SLIME CYANIDE PLANT AT GUANAJUATO, MEXICO. By E. Shapley. E. & M. J., vol. 88, p. 68.  $1\frac{1}{2}$  columns.

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See also FINE CRUSHING BY MILLS, ETC.

### Chlorination Processes

CHLORINATION IN CALIFORNIA. By W. E. Darrow. Min. & Sci. Press, vol. 97, p. 609.  $3\frac{1}{2}$  columns.

**REFINING GOLD BY CHLORINE GAS.** Min. & Sci. Press, vol. 22, p. 278, 1½ columns; p. 297, 1½ columns.

**THE MALM DRY CHLORINATION PROCESS.** By R. L. Herrick. M. & M., vol. 30, p. 370. 9 columns. I.

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**DRY CHLORINATION OF SULPHIDE ORES** By F. W. Traphagen. Min. & Sci. Press, vol. 98, p. 522. 2 columns. Table.

**DRY CHLORINE PROCESS:** The Chlorination of Complex Ores Containing Precious Metals, Together with Zinc, Lead and Iron. By F. W. Traphagen. M. & M., vol. 29, p. 449. 4½ columns.

**CHLORINATION OF GOLD ORES; LABORATORY TESTS:** Discussion of the paper by A. L. Sweetser, Trans., vol. 38, p. 236. T. A. I. M. E., vol. 39, p. 793. 2½ pages.

See also **COST OF METALLURGICAL TREATMENT.**

#### Refining Gold and Silver

**FLUXING OF GOLD SLIMES.** By C. E. Mayer. P. C. M. & M. Soc. S. A., vol. 5, p. 168, 4 columns; p. 211, 1½ columns; p. 341, ½ column; vol. 6, p. 17, 1 column.

**TREATMENT OF THE GOLD AND SILVER PRECIPITATE AT DOS ESTRELLAS.** By W. Neal. Min. & Sci. Press, vol. 98, p. 327. 2 columns.

**Smelting Gold Precipitates and Bullion with Oil Fuel.** By A. Yates. E. & M. J., vol. 88, p. 473. 3½ columns.

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**REFINING OF SILVER BULLION CONTAINING ARSENIC AND ANTIMONY.** By B. Neilly. J. C. M. I., vol. 11, p. 586. 6 pages. I.

**BATTERY AND CYANIDE GOLD SMELTING.** By A. Thomas. P. C. M. & M. Soc. S. A., vol. 9, p. 6, 6 columns; p. 50, 2 columns; p. 120, 5 columns; p. 162, 5½ columns; p. 191, 4 columns.

**RESULTS OF BAG-HOUSE EXPERIMENTS IN CONNECTION WITH TAVENER'S PROCESS.** By H. Rusden. P. C. M. & M. Soc. S. A., vol. 5, p. 288. 2 columns. I.

**THE TAVENER PROCESS.** By K. L. Graham. P. C. M. & M. Soc. S. A., vol. 5, p. 315. 2 columns.

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#### Metallurgy of Iron and Steel

**ABOUT SOME OF THE PROPERTIES OF STEEL.** By A. E. Hunt. P. E. Soc. W. Pa., vol. 2, p. 271, 8 columns; p. 251, 6 pages.

**THE SOLID NON-METALLIC IMPURITIES IN STEEL (SONIMS).** By H. D. Hibbard. T. A. I. M. E., vol. 41, p. 803. 20 pages.

**ON THE CHEMICAL CHANGES WHICH PIG IRON UNDERGOES DURING ITS CONVERSION INTO WROUGHT IRON.** By F. C. Calvert. Min. Mag., vol. 9, p. 487. 6 pages.

**THE DETERIORATING EFFECT OF "ACID PICKLE" ON STEEL RODS, AND THEIR PARTIAL RESTORATION ON "BAKING."** P. C. M. & M. Soc. S. A., vol. 7, p. 424. 2½ columns.

**NOTE ON SOME CAUSES OF RED-SHORTNESS AND COLD-SHORTNESS IN IRON.** By W. Metcalf. P. E. Soc. W. Pa., vol. 2, p. 217. 2 columns; p. 219, 2 columns.

- 336** METALLURGICAL METHODS AND PROCESSES
- CRYSTALLIZATION OF IRON AND STEEL.** By A. M. Johnston. P. C. M. & M. Soc. S. A., vol. 10, p. 3. 15 columns.
- ON THE COMPOUNDS OF CARBON AND IRON, AND THEIR INFLUENCE ON THE PRODUCTION OF PIG IRON.** By A. Gurlt. Min. Mag., vol. 8, p. 40, 7 pages; p. 123, 6 pages.
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- HEAT TREATMENT OF STEEL RAILS.** By W. Metcalf. P. E. Soc. W. Pa., vol. 24, p. 135. 19½ pages. I.
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- STEEL CASTINGS.** P. E. Soc. W. Pa., vol. 25, p. 333. 21 pages. I.
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- PIPING AND SEGREGATION IN STEEL INGOTS:** Discussion of H. M. Howe's Paper. T. A. I. M. E., vol. 38, p. 924. 11 pages. I.
- THE INFLUENCE OF THE CONDITIONS OF CASTING ON PIPING AND SEGREGATION, AS SHOWN BY MEANS OF WAX INGOTS.** By H. M. Howe and B. Stoughton. T. A. I. M. E., vol. 38, p. 109. 17 pages. I.
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- THE UNITED STATES STEEL CORPORATION. By F. Hobart. E. & M. J., vol. 87, p. 659. 7½ columns.
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- BASIC OPEN-HEARTH STEEL MANUFACTURE, AS CARRIED OUT BY THE DOMINION IRON AND STEEL COMPANY AT SIDNEY, CAPE BRETON, NOVA SCOTIA.** By F. E. Lathe. J. C. M. I., vol. 10, p. 373. 24 pages. I.
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- See also **THE IRON TRADE, and ELECTRO-METALLURGY, also Cost of Metallurgical Treatment.**
- Iron Blast Furnace Method, Etc.**
- THE DESSICATION OF FURNACE AIR.** M. & M., vol. 31, p. 723.  $6\frac{1}{2}$  columns. I.
- DRY AIR BLAST IN STEEL MAKING.** P. C. M. & M. Soc. S. A., vol. 9, p. 217.  $\frac{1}{2}$  column.
- IMPROVEMENTS IN THE DRY AIR BLAST.** E. & M. J., vol. 88, p. 1170.  $3\frac{1}{2}$  columns. I.
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- NOTES ON THE GAYLEY DRY-AIR BLAST-PROCESS:** Discussion of C. A. Meissner's Paper. T. A. I. M. E., vol. 38, p. 901. 11 pages. D.
- ZINC OXIDE IN IRON-ORES, AND THE EFFECT OF ZINC IN THE IRON BLAST FURNACE.** By J. J. Porter. T. A. I. M. E., vol. 38, p. 448. 7 pages.
- THE USES OF CHEMICAL ANALYSIS IN IRON BLAST FURNACE PRACTICE AND SOME NOTES ON LABORATORY METHODS.** By G. D. Drummond. J. C. M. I., vol. 10, p. 442. 20 pages.
- A HOT-BLAST FURNACE FOR THE SMALL OPERATOR.** By P. A. Babb. E. & M. J., vol. 88, p. 647. 9½ columns. I.
- THE SHAPE OF THE IRON BLAST FURNACE.** By H. M. Howe. E. & M. J., vol. 86, p. 507. 13½ columns. I.
- BLAST PRESSURE AT THE TUYERES AND INSIDE THE FURNACE.** By R. H. Sweeter. T. A. I. M. E., vol. 40, p. 247. 6 pages. I.
- AN UNUSUAL BLAST FURNACE PRODUCT, AND NICKEL IN SOME VIRGINIA IRON ORES.** By F. Firmstone. T. A. I. M. E., vol. 39, p. 547. 2 pages; Discussion of the paper of F. Firmstone, p. 921. 1 page.
- AMERICAN BLAST FURNACE PROGRESS.** E. & M. J., vol. 88, p. 1219. 1½ columns.
- TRIAL RUNS WITH THE GARRETSON FURNACE.** By C. C. Semple. E. & M. J., vol. 88, p. 1266. 6 columns.
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- DEVELOPMENT IN THE SIZE AND SHAPE OF BLAST FURNACES IN THE LEHIGH VALLEY, AS SHOWN BY THE FURNACES AT THE GLENDON IRON WORKS.** By F. Firmstone. T. A. I. M. E., vol. 40, p. 459. 16 pages. I.
- BLAST FURNACE PRACTICE:** Discussion of T. F. Witherbee Paper. T. A. I. M. E., vol. 38, p. 887. 13 pages.
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- THE DISTRIBUTION OF IRON BLAST FURNACES IN THE UNITED STATES.** E. & M. J., vol. 90, p. 160. Table and Map.
- See also **THE IRON TRADE.**
- Electro-Metallurgy of Iron and Steel**
- TOOL STEEL DIRECT FROM THE ORE IN AN ELECTRIC FURNACE.** By A. Stansfield. J. C. M. I., vol. 13, p. 151. 11½ pages. I.
- Possibilities in the Electric Smelting of Iron Ores.** By A. Stansfield. J. C. M. I., vol. 11, p. 180. 8 pages.
- The Electrothermic Production of Steel from Iron Ore.** By A. Stansfield. J. C. M. I., vol. 10, p. 127. 4½ pages.
- Progress in Electro-Siderurgy.** By P. McN. Bennie. J. C. M. I., vol. 13, p. 135. 16 pages. I.

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- ELECTRICAL REDUCTION OF IRON.** By J. W. Richards. Min. & Sci. Press, vol. 100, p. 549. 8 columns. I.
- ELECTRIC SMELTING OF IRON ORE IN SWEDEN.** E. & M. J., vol. 88, p. 474. 1½ columns.
- THE REDUCTION OF IRON ORES IN THE ELECTRIC FURNACE.** By R. Turnbull. J. C. M. I., vol. 11, p. 173. 6 pages.
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- THE GIROD ELECTRIC FURNACE AND THE FRENCH WORKS USING THE PAUL GIROD STEEL PROCESS.** By W. Borchers. T. A. I. M. E., vol. 41, p. 120. 18½ pages. I.
- Metallurgy of Lead**
- REMARKS ON THE PROCESS FOR SMELTING LEAD.** By A. Trippel. Min. Mag., vol. 4, p. 36. 12 pages.
- EARLY SMELTING AT CERRO GORDO.** By F. Drake. Min. & Sci. Press, vol. 100, p. 745. 2½ columns.
- A PROPOSED NEW METHOD OF SMELTING LEAD CONCENTRATES.** By H. F. Collins. T. Au. I. M. E., vol. 4, p. 124. 7½ pages.
- HANDLING BLAST FURNACE BULLION AT THE SELBY SMELTING WORKS.** By J. C. Bennett. E. & M. J., vol. 86, p. 83. 5 columns. I.
- DESILVERIZING LEAD.** By H. O. Hofman. U. S. G. S., Mineral Resources, 1883 and 1884, vol. 14.
- LEAD SLAGS.** By M. W. Iles. U. S. G. S., Mineral Resources, 1883 and 1884, vol. 14.
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- THE ROBBINSON NON-SLAGGING TUYERE.** E. & M. J., vol. 85, p. 251. 1 column. I.
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- SYSTEM OF MIXING ORE PREPARATORY TO SMELTING.** E. & M. J., vol. 89, p. 648, ¾ column. I.
- LOSS BY LEAKAGE OF BLAST IN LEAD AND COPPER FURNACES.** E. & M. J., vol. 86, p. 756. 1 column. I.
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- ELECTROLYTIC REFINING OF LEAD-ANTIMONY ALLOY.** E. & M. J., vol. 87, p. 892. ¾ column.
- See also ELECTRO-METALLURGY.
- THE BAG HOUSE AT SELBY, CALIFORNIA.** By J. C. Bennett. E. & M. J., vol. 86, p. 451. 16½ columns. I.
- THE BAG HOUSE AND ITS RECENT APPLICATIONS.** By W. C. Ebaugh. E. & M. J., vol. 88, p. 1020. 6 columns. I.
- THE REFINING OF BASE BULLION AT PORT PIRIE AND TREATMENT OF BY-PRODUCTS.** By B. B. Bayly. T. Au. I. M. E., vol. 12, p. 79. 26 pages. I.
- NOTE ON THE REFINING OF BASE BULLION.** By W. Bowling. P. C. M. & M. Soc. S. A., vol. 5, p. 225, 6 columns; p. 263, 3½ columns; p. 313, 1½ columns; p. 341, 4 columns; vol. 6, p. 19, ¾ column; p. 49, 4 columns; p. 169, 3 columns.

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**REMOVING ACCRETIONS IN CRUCIBLE OF LEAD FURNACES.** By J. N. Goddard. E. & M. J., vol. 86, p. 763. 3 columns. I.

**LEAD SMELTING IN QUEENSLAND, AUSTRALIA.** E. & M. J., vol. 87, p. 604. 2 columns.

**TRAIL SMELTER AND LEAD REFINERY.** By J. M. Turnbull. M. & M., vol. 31, p. 121. 10 columns. I.

**METALLURGICAL TREATMENT OF JAMESONITE ORES, BLACK HILLS, SOUTH DAKOTA.** By G. P. Ives and I. D. Ossa. E. & M. J., vol. 87, p. 891. 3 columns.

**SMELTING REFRACTORY LEAD ORES AT LAURIUM.** By L. Guillaume. E. & M. J., vol. 88, p. 446. 7 $\frac{1}{2}$  columns. I.

**LEAD AND ZINC SMELTING IN UPPER SILESIA.** By O. H. Hahn. E. & M. J., vol. 89, p. 1111. 9 $\frac{1}{2}$  columns. I.

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**WEBB CITY LEAD SMELTERY.** By L. L. Wittich. M. & M., vol. 31, p. 709. 3 $\frac{1}{2}$  columns. I.

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**MIDVALE BLAST FURNACE PRACTICE, UTAH.** By L. A. Palmer. M. & M., vol. 30, p. 543. 4 columns. I.

See also **METALLURGY OF GOLD AND SILVER**, and **METALLURGY OF COPPER**, also **COST OF METALLURGICAL TREATMENT**.

### **Metallurgy of Nickel and Cobalt**

**MINING AND SMELTING PLANT OF MOND NICKEL COMPANY.** By G. B. Shipley. E. & M. J., vol. 90, p. 364. 8 $\frac{1}{2}$  columns. I.

**ELECTRODE POSITION OF NICKEL.** By E. F. Kern and F. G. Fabian. Sch. Mines Quart., vol. 29, p. 342. 28 pages.

### **Metallurgy of Quicksilver**

**REDUCTION OF QUICKSILVER.** Min. & Sci. Press, vol. 95, p. 151.  $\frac{1}{2}$  column.

**SHORTENING THE ROASTING PERIOD FOR MERCURY ORES.** By W. B. Dennis. E. & M. J., vol. 88, p. 112. 14 $\frac{1}{2}$  columns. I.

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### **Metallurgy of Rare Metals**

**METALLURGY OF ANTIMONY.** M. & M., vol. 29, p. 477. 1 $\frac{1}{2}$  columns.

**NOTES ON THE CONSTRUCTION OF AN ARSENIC PLANT.** By H. Howes. E. & M. J., vol. 88, p. 561.  $\frac{1}{2}$  column.

**MANUFACTURE OF METALLIC TUNGSTEN AND FERRO-TUNGSTEN.** By L. R. Pratt, E. & M. J., vol. 90, p. 959. 1½ columns.

**URANIUM AND VANADIUM METALLURGY.** By J. H. Haynes. M. & M., vol. 30, p. 139. 3½ columns. Flow-Sheet.

**Roasting Ores, Roasting Furnaces, Etc.**

**RECENT PROGRESS IN BLAST-ROASTING.** By H. O. Hofman. T. A. I. M. E., vol. 41, p. 739, 24 pages, I.; p. 915, 4½ pages, I.

**RECENT PROGRESS IN BLAST ROASTING OF SULPHIDES.** By H. O Hofman. E. & M. J., vol. 90, p. 317. 9½ columns. I.

**DETERMINING DUST LOSSES FROM ROASTERS.** By C. C. Hoke. E. & M. J., vol. 89, p. 857. 1½ columns. I.

**LABORATORY EXPERIMENTS IN LIME-ROASTING A GALENA CONCENTRATE WITH REFERENCE TO THE SAVELSBERG PROCESS.** By H. O. Hofman, R. P. Reynolds, and A. E. Wells. T. A. I. M. E., vol. 38, p. 126. 16 pages. I.

**LABORATORY EXPERIMENTS IN LIME-ROASTING A GALENA CONCENTRATE: A Discussion of H. O. Hofman's Paper.** T. A. I. M. E., vol. 38, p. 935. 5 pages.

**NOTES ON THE DESULPHURIZATION OF SLIMES BY HEAP ROASTING AS CONDUCTED BY THE BROKEN HILL PROPRIETARY COMPANY, LIMITED.** By E. J. Horwood. T. Au. I. M. E., vol. 9, p. 106. 10 pages.

**THE McDougall ROASTING FURNACE.** By L. S. Austin. Min. & Sci. Press, vol. 95, p. 280. 4½ columns. I.

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**THE DWIGHT AND LLOYD SINTERING PROCESS.** By A. S. Dwight. E. & M. J., vol. 85, p. 649. 11 columns. I.

**THE DESULPHURIZATION OF METALLIFEROUS SULPHATES, OR DR. HOLLAND'S PROCESS.** By O. M. Lieber. Min. Mag., vol. 3, p. 168. 6½ pages.

**ROASTING OF THE ARGENTIFEROUS COBALT-NICKEL ARSENIDES OF TEMISKAMING, ONTARIO, CANADA.** By H. M. Howe, Wm. Campbell, and C. W. Knight. T. A. I. M. E., vol. 36, p. 162. 9 pages. I.

**ROASTING AT KALGOORLIE.** Min. & Sci. Press, vol. 101, p. 50. 4 columns. I.

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**See also METALLURGY OF GOLD AND SILVER, METALLURGY OF LEAD, METALLURGY OF COPPER, ETC.**

**See also COST OF METALLURGICAL TREATMENT.**

**Smoke Problem: Flue Dust, Fume, Bag Houses, Chimneys, Etc.**

**DISPOSAL OF GASES AT SELBY, CALIFORNIA.** By J. C. Bennett. E. & M. J., vol. 86, p. 604. 2½ columns. I.

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- SPRAGUE PROCESS FOR TREATING FURNACE GASES. By C. B. Sprague. E. & M. J., vol. 89, p. 519. 5 columns.
- CHICAGO's SMOKE PROBLEM. By P. P. Bird. J. W. Soc. E., vol. 15, p. 279. 68 pages. I.
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- THE CONDENSATION OF FUME AND THE NEUTRALIZATION OF FURNACE-GASES. By F. T. Havard. T. A. I. M. E., vol. 41, p. 631. 17 pages.
- ELIMINATION OF SMELTER FUME. By L. A. Palmer. M. & M., vol. 30, p. 496. 7 columns. I.
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- COTTRELL PROCESS FOR CONDENSING SMELTER FUMES. E. & M. J., vol. 86, p. 375. 9 columns. I.
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- FLUE DUST AND FUME IN SMELTERY GASES. By L. T. Wright. E. & M. J., vol. 90, p. 111. 4½ columns.
- SETTLING FINE DUST AT COPPER QUEEN SMELTERY. By G. B. Lee. E. & M. J., vol. 90, p. 504. 8 columns. D.
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- A CONCRETE BLOCK CHIMNEY. Min. & Sci. Press, vol. 97, p. 468. 1 column. I.
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- THE CATENARY FLUE. By N. S. Stewart. E. & M. J., vol. 88, p. 257. 1½ columns.
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- THE ANTI-SMELTER FIGHT IN CALIFORNIA. E. & M. J., vol. 86, p. 603. 1 column.
- DEVICE FOR SHAKING BAGS IN SMELTER BAG HOUSE. E. & M. J., vol. 86, p. 1009. 2 columns.
- THE DEPOSITION OF FLUE DUST. By C. F. Shelby. E. & M. J., vol. 85, p. 204. 3 columns.

#### Metallurgy of Tin

- THE ASSAY OF TIN ORES. By J. Gray. P. C. M. & M. Soc. S. A., vol. 10, p. 312, 6½ columns; p. 402, 2½ columns.

**Smelting the Tin Ores in the Yunnan District, China.** T. I. M. & M., vol. 19, p. 192. 2 pages. I.

**The Metallurgical Treatment of Complex Tin Sulphides.** By P. J. Thibault. T. Au. I. M. E., vol. 8, pt. 2, p. 155. 8½ pages.

#### Metallurgy of Zinc

**Recent Advances in the Electro-Metallurgy of Zinc.** By F. Peters. E. & M. J., vol. 89, p. 1017. 7½ columns. I.

**Electric Zinc Smelting.** By F. T. Snyder. Min. & Sci. Press, vol. 95, p. 720. 1½ columns.

**Electric Furnace for Zinc Smelting.** By F. A. J. FitzGerald. M. & M., vol. 31, p. 703. 2½ columns. I.

**Treatment of Complex Zinc Sulfide Ores at Oker, Germany.** By H. Pope. E. & M. J. vol. 89, p. 819. 6½ columns.

**Physical Factors in the Metallurgical Reduction of Zinc Oxide.** By W. McA. Johnson. T. A. I. M. E., vol. 38, p. 656. 7½ pages.

**Present Zinc Smelting Conditions.** By R. G. Hall. Min. & Sci. Pres, vol. 101, p. 299. 2½ columns.

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**Zinc Smelting for Pigments.** By E. W. Buskett. Min. & Sci. Press, vol. 97, p. 604. 3 columns. I.

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**Smelting Briquetted Zinc Ore.** By T. J. Hoover. E. & M. J., vol. 90, p. 323. 6 columns.

**Charging and Cleaning Machine for Zinc Furnaces.** By O. Saeger.

E. & M. J., vol. 89, p. 780. 4½ columns. I.

See also COST OF METALLURGICAL TREATMENT.

#### Miscellaneous Information

**The Relations Between Miners and Smelters.** E. & M. J., vol. 85, p. 222. 4½ columns.

**Calculation of Heat Conductivities.** By C. Hering. Min. & Sci. Press, vol. 98, p. 357. 1½ columns.

**Electric Heat vs. Heat from Fuel.** Min. & Sci. Press, vol. 95, p. 246. 2 columns.

**Waste of Heat and Materials in Smelting Works.** By H. Lang. E. & M. J., vol. 88, p. 916. 8½ columns.

**Fusion Table of Minerals in the Oxygen-Gas Blowpipe Flame.** By L. M. Luquer. Sch. Mines Quart., vol. 29, p. 179. 4 pages.

**Practical Pyrometry.** By R. S. Whipple. J. W. Soc. E., vol. 12, p. 169. 34 pages. I.

**Adjustable Pyrometer Stand.** By L. W. Bahney. Min. & Sci. Press, vol. 98, p. 629. 2½ columns. I.

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**Measuring Industrial Temperatures.** By T. T. Read. Min. & Sci. Press, vol. 95, p. 712. 6½ columns. I.

**Shape Brick and Methods of Calculating Requirements for Furnace Work.** By N. Peters. E. & M. J., vol. 87, p. 447. 8½ columns. I.

**Use of Basic Refractory Brick in Metallurgy.** By F. T. Havard. E. & M. J., vol. 86, p. 802. 6½ columns.

**The Havard Coal Meter:** An Apparatus for Measuring Coal on Way to Furnace. M. & M., vol. 30, p. 728. 1 column. I.

- BLAST FURNACE TUYERE.** By L. S. Austin. Min. & Sci. Press, vol. 98, p. 392.  $\frac{1}{2}$  column. I.
- THE UTILIZATION OF WASTE HEAT CONTAINED IN SLAGS FROM SMELTING FURNACES.** By J. Howell and E. A. Ashcroft. T. Au. I. M. E., vol. 1, p. 66. 4 $\frac{1}{2}$  pages. I.
- FURNACE CHARGING.** By G. F. Beardsley. Min. & Sci. Press, vol. 95, p. 593. 2 $\frac{1}{2}$  columns.
- AGGLOMERATING ORE-FINES AND FLUE DUST.** By H. Haas. E. & M. J., vol. 90, p. 814. 11 $\frac{1}{4}$  columns. I.
- OLD AND NEW METHODS OF GALVANIZING.** By A. Sang. P. E. Soc. W. Pa., vol. 23, p. 546. 25 pages.
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- THE ROOT POSITIVE BLAST BLOWER.** By L. S. Austin. Min. & Sci. Press, vol. 99, p. 432. 2 columns.
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**SURFACE PLANT AT MODERN COAL MINE.** By W. R. Roberts. M. & M., vol. 30, p. 577. 10½ columns. I.

**PLANT OF THE UTAH FUEL COMPANY.** By A. C. Watts. M. & M., vol. 30, p. 161. 5 columns. I.

**NOTES ON PLANT IN THE MINING DISTRICTS OF CANADA.** By R. E. Commins. T. I. M. & M., vol. 18, p. 180. 20 pages.

**A MODERN MINE AT AUBONÉ IN FRENCH LORRAINE.** By E. Walch. E. & M. J., vol. 89, p. 509. 4 columns. I.

**OPERATION OF THE SAYRE COLLIERY, PENNSYLVANIA.** By H. J. Heffner. Coal Mining Supplement, E. & M. J., vol. 88, p. 28. 8 columns. I.

**COAL MINING AT HOSMER, BRITISH COLUMBIA.** E. & M. J., vol. 87, p. 896. 2 columns.

**THE YATESBORO POWER PLANT OF THE COWANSHANNOCK COAL AND COKE COMPANY.** By C. M. Meana. M. & M., vol. 29, p. 11. 5½ columns. I.

**TABER PLANT OF THE CANADA WEST COAL COMPANY, AT TABER, ALBERTA.** By W. Roberts. M. & M., vol. 29, p. 74. 3½ columns. I.

**HOISTING AND COAL-HANDLING PLANT.** By W. G. Flint. M. & M., vol. 30, p. 12. 2 columns. I.

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**MINE GASES****Mine Atmosphere and Gases**

**CHART OF MINE GASES.** By C. Myers. E. & M. J., vol. 85, p. 1100. Table.

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**THE REGULATION OF GAS IN MINE AIR CURRENTS.** By J. G. Smyth. E. & M. J., vol. 88, p. 14. 9 columns. I.

**DETERMINATION AND REGULATION OF THE PERCENTAGE OF GAS IN MINE AIR-COURSES.** By J. G. Smyth. M. & M., vol. 29, p. 555. 6 columns. I.

**WITWATERSRAND MINE AIR:** Recent Investigations. By J. Moir. P. C. M. & M. Soc. S. A., vol. 7, p. 65, 12½ columns; p. 145, 1 column; p. 175, 11 columns; p. 203, 8½ columns; p. 248, 32½ columns.

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**THE VITIATION OF THE AIR IN TRANS-VAAL MINES.** By J. Moir. P.C.M. & M. Soc. S. A., vol. 6, p. 11, 11 columns; p. 53, ¼ column; p. 114, 1 column; p. 158, 7 columns; p. 191, 3 columns.

**DEFICIENCY OF OXYGEN IN MINE AIR.** M. & M., vol. 30, p. 174. 1 column.

**AFTERDAMP IN MINES.** M. & M., vol. 30, p. 173. 2½ columns.

**THE ISOLATION OF CERTAIN MINE AREAS FROM CONTACT WITH THE AFTER-GASES CREATED BY AN EXPLOSION.** By N. Robinson. E. & M. J., vol. 87, p. 507. 1½ columns.

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See also **CHEMISTRY: Methods and Practice.**

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**THE ALLOWABLE AMOUNTS OF CARBON MONOXIDE AND CARBON DIOXIDE IN MINES.** E. & M. J., vol. 90, p. 899. ¾ column.

**CARBON DIOXIDE.** By M. L. Fuller. U. S. G. S., Mineral Resources, 1905.

**EXPLOSIVE MINE GASES AND DUSTS.** By R. T. Chamberlin. U. S. G. S., Bull. 383. 67 pages. 1909.

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See also **COAL DUST AS AN EXPLOSIVE. EARTHQUAKES AND FIREDAMP.** M. & M., vol. 30, p. 252. 2½ columns.

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#### Gases Resulting from Burning Explosives

**GASEOUS DECOMPOSITION; PRODUCTS OF BLACK POWDER, WITH SPECIAL REFERENCE TO THE USE OF BLACK POWDER IN COAL MINES.** By C. M. Young. T. A. I. M. E., vol. 41, p. 454. 25½ pages.

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**GASES RESULTING FROM HIGH EXPLOSIVES.** By W. Cullen. Min. & Sci. Press, vol. 99, p. 297. 3½ columns.

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#### **Occurrence of Gases in Coal**

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#### **Gas in Mines Other Than Coal**

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#### **Outburst of Gas in Mines**

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#### **Detection and Testing of Mine Gases**

THE LIVERING ELECTRICAL INDICATOR FOR FIREDAMP. E. & M. J., vol. 86, p. 627.  $\frac{1}{2}$  column.

FIREDAMP: Its Composition, Detection and Estimation. By T. Gray. T. I. M. E., vol. 39, p. 286. 19 pages.

EXAMINING FOR FIREDAMP. By J. Ashworth. M. & M., vol. 30, p. 153. 5 $\frac{1}{2}$  columns.

APPARATUS FOR THE DETECTION OF FIREDAMP. E. & M. J., vol. 88, p. 566.  $\frac{1}{2}$  column.

NOTES ON A SMALL CONTRIVANCE TO MORE EASILY DETECT FIREDAMP. By W. C. Blackett. T. I. M. E., vol. 37, p. 276, 4 $\frac{1}{2}$  pages, I.; p. 441, 2 $\frac{1}{2}$  pages.

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See also ESTIMATION OF QUANTITY OF GASES.

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#### **Mine Gases and Barometric Pressure**

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**EFFECT OF ATMOSPHERIC PRESSURE ON EXUDATION.** By W. H. Booth. *Colliery Engineer*, vol. 14, p. 104.

**BAROMETER AND FIREDAMP EXPLOSIONS.** *Colliery Engineer*, vol. 10, p. 209.

**BAROMETRIC PRESSURE AND MINE EXPLOSIONS.** *E. & M. J.*, vol. 85, p. 36. 1 column.

**CONSIDERATION OF SUPPOSED ATMOSPHERIC INFLUENCE IN CONNECTION WITH COLLIERY EXPLOSIONS.** By J. Warburton. *Colliery Engineer*, vol. 8, p. 257.

See also **MINE EXPLOSIONS and DUST AS AN EXPLOSIVE AGENT.**

#### **Estimation of Quantity of Gases**

**THE ESTIMATION OF CARBON MONOXIDE IN MINE GAS.** By E. H. Weiskopf. *P. C. M. & M. Soc. S. A.*, vol. 9, p. 258, 15½ columns, I.; p. 307, 1½ columns.

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#### **Mining Law: Its Principles and Applications**

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**HISTORICAL SKETCH OF MINING LAW.** By R. W. Raymond. *U. S. G. S., Mineral Resources* 1883 and 1884, vol. 14. 19 pages.

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**TRESPASS IN MINING.** *E. & M. J.*, vol. 86, p. 460. 1½ columns.

**THE FOREST SERVICE AND MINING IN THE NATIONAL FOREST.** By W. W.

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**THE FOREST RESERVE AND THE MINING LAWS.** *E. & M. J.*, vol. 85, p. 270. 1½ columns.

**WHAT SHOULD BE INCLUDED IN A COURSE IN ENGINEERING JURISPRUDENCE.** By A. H. Blanchard. *P. Soc. P. E. E.*, vol. 15, p. 673. 6 pages.

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See also **MINING EDUCATION and ENGINEERING SCHOOLS.**

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See also the **ENGINEER and ENGINEERING ETHICS.**

#### **Mining Law of the Various States and Countries**

**GROWTH OF AMERICAN AND AUSTRALIAN MINING LAW.** By A. C. Veatch. *E. & M. J.*, vol. 89, p. 716. 16½ columns.

- NEW ZEALAND AND AMERICAN MINING LAW:** A Contrast. By A. C. Veatch. Min. & Sci. Press, vol. 101, p. 274. 3½ columns.
- DEVELOPMENT AND OPERATION OF THE MINING LAW OF NEW ZEALAND.** By A. C. Veatch. Min. & Sci. Press, vol. 101, p. 338. 4 columns.
- MINING LEGISLATION IN QUEENSLAND, AUSTRALIA.** By A. C. Veatch. E. & M. J., vol. 90, p. 448. 3½ columns.
- MINING LAWS OF BAHIA, BRAZIL.** E. & M. J., vol. 87, p. 1032. ¾ column.
- CANADIAN INDUSTRIAL DISPUTES ACT.** By F. A. Rose. Min. & Sci. Press, vol. 96, p. 104. 2 columns.
- QUEBEC MINING LAW.** E. & M. J., vol. 87, p. 1046. 1 column.
- MINING LAWS OF QUEBEC AND ONTARIO.** By T. F. Van Wagenen. Min. & Sci. Press, vol. 101, p. 476. 4 columns. Map.
- DEFICIENCIES IN CANADIAN MINING LAWS:** A Plea for Improvement and Unification. By H. Mortimer-Lamb. J. C. M. I., vol. 13, p. 478. 11 pages.
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- PROPRIETORSHIP, MINING REGULATIONS AND CUSTOMS IN THE YUNNAN TIN DISTRICT, CHINA.** T. I. M. & M., vol. 19, p. 189. 1 page.
- ANCIENT MINING CUSTOMS IN THE PEAK DISTRICT OF DERBYSHIRE.** By H. L. Terry. E. & M. J., vol. 88, p. 256. 2 columns.
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- A TOPICAL DIGEST OF THE MEXICAN MINING LAW.** E. & M. J., vol. 89, p. 416. 10½ columns.
- THE PROPOSED NEW MINING LAW OF MEXICO.** By R. E. Chism. E. & M. J., vol. 88, p. 216. 9 columns.
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- PENNSYLVANIA BITUMINOUS MINE LAW.** M. & M., vol. 29, p. 416. 3½ columns.
- MINING LAWS OF SANTO DOMINGO.** By C. A. Haussler. M. & M., vol. 31, p. 580. 1½ columns.
- THE MINE LAW OF WEST VIRGINIA.** By P. A. Grady. M. & M., vol. 31, p. 370. 3½ columns.
- MINING LAWS IN WISCONSIN ZINC DISTRICT.** By J. E. Kennedy. E. & M. J., vol. 87, p. 861. 3 columns.
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- MINING LAWS IN CHILE.** T. I. M. E., vol. 38, p. 39. 4 pages.
- Mineral Land Acts and Federal Mining Laws**
- CLASSIFICATION OF PUBLIC LANDS.** By G. O. Smith. Min. & Sci. Press, vol. 99, p. 229. 4½ columns.
- THE MINING MAN'S INTEREST IN LAND CLASSIFICATION.** By G. O. Smith. Min. & Sci. Press, vol. 99, p. 501. 4 columns.
- THE LAW OF MINES AND REAL ESTATE.** Min. Mag., vol. 2, p. 166. 2½ pages.
- ACQUISITION OF PUBLIC OIL LANDS.** By W. Forstner. Min. & Sci. Press, vol. 101, p. 171. 4½ columns.
- PUBLIC LANDS AND NEEDED LEGISLATION.** By R. A. Ballinger. Min. & Sci. Press, vol. 99, p. 748. 5½ columns.
- EFFICIENCY IN THE ADMINISTRATION OF THE PUBLIC LANDS OF A NATION.** By A. C. Veatch. E. & M. J., vol. 87, p. 1048. 3 columns.
- PRICING PUBLIC COAL LANDS.** E. & M. J., vol. 87, p. 1137. 3 columns.
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**MINERALS UNDER RAILWAYS AND STATUTORY WORKS.** By J. H. Cockburn. T. I. M. E., vol. 39, p. 104. 32 pages.

**TIDE LANDS.** E. & M. J., vol. 87, p. 639.  $\frac{1}{2}$  column.

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**CALIFORNIA OIL AND ASPHALT LANDS.** E. & M. J., vol. 87, p. 1233.  $1\frac{1}{2}$  columns.

**THE PHOSPHATE LAND QUESTION.** E. & M. J., vol. 87, p. 505.  $2\frac{1}{2}$  columns.

**DISPOSAL OF PHOSPHATE LANDS.** E. & M. J., vol. 87, p. 406.  $2\frac{1}{2}$  columns.

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#### **Extra-Lateral Rights and the Law of the Apex**

**A BROAD APEX.** Min. & Sci. Press, vol. 95, p. 214. 1 column.

**A BROAD APEX.** Min. & Sci. Press, vol. 95, p. 586.  $8\frac{1}{2}$  columns. I.

**EXTRA-LATERAL RIGHTS AGAIN.** By H. V. Winchell. Min. & Sci. Press, vol. 100, p. 648. 2 columns. D.

**VERTICAL SIDE LINE LAW.** M. & M., vol. 30, p. 270.  $1\frac{1}{2}$  columns.

#### **Claims, Taxes, Assessments and Locations**

**ASSESSMENT WORK.** Min. & Sci. Press, vol. 95, p. 679.  $1\frac{1}{2}$  columns.

**HOW TO ACQUIRE TITLE TO MINING CLAIMS IN MEXICO.** Min. & Sci. Press, vol. 96, p. 331. 1 column.

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**LOCATION OF CLAIMS.** E. & M. J., vol. 86, p. 117. 4 columns.

**APPLICATION FOR MINE PATENT.** E. & M. J., vol. 87, p. 597. 7 columns.

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**SIZE AND REGULATIONS OF MINING LOTS IN THE JOPLIN LEAD AND ZINC REGION, MISSOURI.** T. A. I. M. E., vol. 38, p. 323.  $1\frac{1}{2}$  pages.

**THE ALASKA COAL CASES.** By H. V. Winchell. E. & M. J., vol. 89, p. 860.  $9\frac{1}{2}$  columns.

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**PLACER CLAIMS.** E. & M. J., vol. 86, p. 212.  $1\frac{1}{2}$  columns.

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**PARALYSIS OF MINING BY THE HOLDING OF IDLE CLAIMS.** By E. B. Kirby. E. & M. J., vol. 88, p. 767.  $8\frac{1}{2}$  columns.

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**LEASE OF A MINE:** A Case in Question. Min. & Sci. Press, vol. 101, p. 558.  $\frac{1}{2}$  column.

**LEASING THE FEDERAL COAL LANDS.** By H. F. Bain. Min. & Sci. Press, vol. 96, p. 73. 3 columns.

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**AUSTRALIAN MINERAL LEASING.** By A. C. Veatch. E. & M. J., vol. 87, p. 1133.  $4\frac{1}{2}$  columns.

**MILL AND TUNNEL SITES.** E. & M. J., vol. 86, p. 212. 1 column.

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**BRITISH COLUMBIA MINING LITIGATION:** Star vs. White. By E. Jacobs. E. & M. J., vol. 88, p. 154.  $1\frac{1}{2}$  columns.

**MINERAL LAND:** An Important Decision. Min. & Sci. Press, vol. 95, p. 123.  $2\frac{1}{2}$  columns.

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**MINING ON A ROYALTY BASIS IN THE JOPLIN DISTRICT.** By L. L. Wittich. M. & M., vol. 30, p. 665.  $6\frac{1}{2}$  columns. I.

**ROYALTIES ON MINERALS IN ONTARIO.** By J. M. Clark. J. C. M. I., vol. 10, p. 340.  $1\frac{1}{2}$  pages.

**ROYALTY REDUCTIONS BY THE ONTARIO GOVERNMENT.** By W. F. Boericke. E. & M. J., vol. 89, p. 4. 1 column.

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**THE TESTING OF MINER'S OIL.** By C. E. Scott. E. & M. J., vol. 87, p. 511. 1½ columns.

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**ACETYLENE LIGHTING.** By N. Good-year. Min. & Sci. Press, vol. 95, p. 460. 1½ columns.

**ACETYLENE LAMPS UNDERGROUND.** E. & M. J., vol. 87, p. 177. ¼ column.

**ACETYLENE MINE LAMPS.** By A. C. Morrison. Min. & Sci. Press, vol. 98, p. 155. 1½ columns.

**ACETYLENE LAMPS FOR MINES.** By A. C. Morrison. E. & M. J., vol. 87, p. 272. 1½ columns.

**A PORTABLE ACETYLENE MINE LAMP.** By E. O. Dane. Min. & Sci. Press, vol. 95, p. 26. ¾ column. I.

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**THE SAFENESS OF VARIOUS TYPES OF SAFETY LAMPS.** By J. B. Marsaut. E. & M. J., vol. 88, p. 980. 6½ columns. I.

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**AN APPARATUS TO FACILITATE THE PROLONGED AND CAREFUL STUDY OF GAS-CAPS PRODUCED ON THE FLAME OF AN ORDINARY SAFETY LAMP BY ACCURATELY DETERMINED PERCENTAGES OF FIREDAMP.** By G. H. Winstanley. T. I. M. E., vol. 38, p. 235. 10 pages. I.

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**PRACTICAL AND ECONOMICAL MINING.** By N. A. Nicholson. J. M. Soc. N. S., vol. 15, p. 83. 5 pages.

**MODERN PROGRESS IN MINING AND METALLURGY IN THE WESTERN UNITED STATES.** By D. W. Bruntton. T. A. I. M. E., vol. 40, p. 543, 19½ pages; Discussion, p. 881, 20½ pages.

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**Glimpses UnderGround.** By T. A. Rickard. Min. & Sci. Press, vol. 100, p. 678. 4½ columns. I.

**DISTRIBUTION OF BEDDED LEADS IN RELATION TO MINING POLICY.** By J. E. Woodman. J. M. Soc. N. S., vol. 10, p. 79. 18 pages.

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### Bureau of Mines

**THE BUREAU OF MINES BILL.** Min. & Sci. Press, vol. 96, p. 103. 2 columns.

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**THE TECHNOLOGIC BRANCH OF THE UNITED STATES GEOLOGICAL SURVEY.** By G. S. Rice. M. & M., vol. 29, p. 435. 11 columns. I.

**THE WORK OF THE CANADIAN DEPARTMENT OF MINES.** By E. Haanel. J. M. Soc. N. S., vol. 13, p. 101. 6½ pages.

**THE VALUE OF A PROVINCIAL DEPARTMENT OF MINES AND GEOLOGY.** By W. G. Miller. J. M. Soc. N. S., vol. 13, p. 137. 7 pages.

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### Mine Reports

**CURRENT MONTHLY REPORTS OF MINES.** By H. S. Denny. E. & M. J., vol. 85, p. 1134. 8½ columns.

**GEOLOGIC ESSENTIALS OF A MINE REPORT.** By C. De Kalb. Min. & Sci. Press, vol. 98, p. 625.  $7\frac{1}{4}$  columns.

### History of Mining

**BOUNDARIES OF THE UNITED STATES AND OF THE SEVERAL STATES AND TERRITORIES, WITH AN OUTLINE OF THE HISTORY OF ALL IMPORTANT CHANGES OF TERRITORY.** By H. Gannett. U. S. G. S., Bull. 171, 142 pages, I., 1900; Bull. 226, 145 pages, I., 1904.

**THE ORIGIN OF CERTAIN PLACE NAMES IN THE UNITED STATES.** By H. Gannett. U. S. G. S., Bull. 197, 280 pages, 1902; Bull. 258, 334 pages, 1905.

**NOTES ON THE EARLIEST DISCOVERIES IN AMERICA.** Min. & Sci. Press, vol. 20, p. 35.  $\frac{1}{2}$  column.

**EARLY MINING IN CALIFORNIA.** By J. McGillivray. Min. & Sci. Press, vol. 100, p. 738. 1 column.

**RAMBLING RECOLLECTIONS OF AN OLD SIXTY-NINER.** By A. D. Hodges. Min. & Sci. Press, vol. 100, p. 715.  $4\frac{1}{2}$  columns.

**TWENTY-THREE YEARS A MINING EDITOR.** By C. G. Yale. Min. & Sci. Press, vol. 100, p. 711. 8 columns. I.

**THE EARLY HISTORY OF ANTHRACITE MINING.** By H. H. Lawrence. Coal Mining Supplement, E. & M. J., vol. 88, p. 1. 9 columns. I.

**THE FIRST COAL SHAFT IN INDIANA.** E. & M. J., vol. 85, p. 176.  $\frac{1}{2}$  column.

**HISTORY OF COAL MINING IN PICTOU COUNTY, NOVA SCOTIA.** E. & M. J., vol. 85, p. 1102. 1 column.

**THE LAST OF THE JERSEY FORGES.** By E. P. Buffet. E. & M. J., vol. 85, p. 309.  $4\frac{1}{2}$  columns. I.

**CHRONOLOGY OF LEAD MINING IN THE UNITED STATES.** By W. R. Ingalls. T. A. I. M. E., vol. 38, p. 644. 12 pages.

**SILVER: History and Occurrence.** By T. F. Van Wagenen. Min. & Sci. Press, vol. 97, p. 392.  $7\frac{1}{4}$  columns.

**HISTORY OF MINING ON THE COMSTOCK.** Min. & Sci. Press, vol. 97, p. 496, 3 columns; p. 570,  $13\frac{1}{2}$  columns, I.

**DECLINE AND REVIVAL OF COMSTOCK MINING.** By W. Symmes. Min. & Sci. Press, vol. 97, p. 496,  $8\frac{1}{4}$  columns, I.; p. 570,  $13\frac{1}{4}$  columns, I.

**COMSTOCK BEGINNINGS.** By J. T. Goodman. Min. & Sci. Press, vol. 99, p. 19. 6 columns. I.

**DISCOVERY OF THE GREAT COMSTOCK MINE.** By D. De Quille. Min. & Sci. Press, vol. 99, p. 22.  $3\frac{1}{2}$  columns.

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**DISCOVERY OF THE AMERICAN NETTIE MINE.** E. & M. J., vol. 90, p. 758.  $1\frac{1}{2}$  columns.

**THE TRUE STORY OF THE CAMP BIRD DISCOVERY.** E. & M. J., vol. 89, p. 1266.  $2\frac{1}{2}$  columns.

**DISCOVERY OF THE CAMP BIRD MINE.** By T. F. Walsh. E. & M. J., vol. 86, p. 223. 4 columns.

**EARLY COLORADO DAYS.** By G. W. Maynard. Min. & Sci. Press, vol. 98, p. 789.  $7\frac{1}{4}$  columns.

**MINES AND MILLS OF COLORADO.** By A. B. Paul. Min. & Sci. Press, vol. 20, p. 18,  $1\frac{1}{2}$  columns; p. 34,  $\frac{1}{2}$  column; p. 50,  $\frac{1}{4}$  column; p. 114,  $1\frac{1}{4}$  columns; p. 146,  $1\frac{1}{2}$  columns; p. 178, 1 column; p. 210,  $1\frac{1}{2}$  columns; p. 234, 1 column; p. 250,  $1\frac{1}{4}$  columns.

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**DISCOVERY OF THE GOLD ROAD MINE.** By J. C. Kennedy. Min. & Sci. Press, vol. 101, p. 773.  $1\frac{1}{2}$  columns.

**HISTORICAL RÉSUMÉ OF THE COPPER QUEEN MINE.** E. & M. J., vol. 87, p. 409. 6 columns.

**EARLY COPPER MINING IN THE PROVINCE OF QUEBEC.** By J. Douglas. J. C. M. I., vol. 13, p. 254. 19 pages.

**THE COPPER AND IRON REGION OF LAKE SUPERIOR.** Min. Mag., vol. 1, p. 261. 7½ pages.

**HISTORY OF THE OLDEST COPPER MINE IN AMERICA.** M. & M., vol. 31, p. 235. 10½ columns. I.

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**THE STORY OF THE BINGHAM CANYON.** By H. W. MacFarren. Min. & Sci. Press, vol. 99, p. 129. 3½ columns. I.

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**GOLD MINES OF TIBET.** By A. Del Mar. Min. & Sci. Press, vol. 100, p. 254. 3½ columns.

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PROSPECTING FOR ORES OF THE GOLDFIELD TYPE. By J. V. Lewis. E. & M. J., vol. 87, p. 1121. 2 $\frac{1}{2}$  columns.

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PROSPECTING IN THE BARBERTON GOLDFIELD. P. C. M. & M. Soc. S. A., vol. 10, p. 127. 2 $\frac{1}{2}$  columns.

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TESTING PLACER GROUND. E. & M. J., vol. 87, p. 223. 2 $\frac{1}{2}$  columns.

PROSPECTING AND MINING GOLD PLACERS IN ALASKA. By J. P. Hutchins. U. S. G. S., Bull. 345, p. 54. 24 pages. 1907.

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PROSPECTING FOR COAL. By B. Halberstadt. M. & M., vol. 30, p. 454. 4 $\frac{1}{2}$  columns. I.

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PROSPECTING DISSEMINATED COPPER ORE DEPOSITS. By C. R. Keyes. E. & M. J., vol. 90, p. 1055. 4 $\frac{1}{2}$  columns.

PROSPECTING IN THE MESABI IRON RANGE. M. & M., vol. 29, p. 293. 2 columns.

PROSPECTING FOR TIN ON CAPE PRINCE OF WALES. Min. & Sci. Press, vol. 95, p. 746.  $\frac{1}{2}$  column.

PROSPECTING FOR TIN IN Siam. By G. B. Adeney. Min. Mag., London, vol. 3, p. 287. 2 columns. I.

PROSPECTING AND TESTING OF CLAY DEPOSITS. By E. K. Soper. Min. & Sci. Press, vol. 100, p. 827. 7 $\frac{1}{2}$  columns.

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**PROSPECTING IN SIBERIA.** Min. & Sci. Press, vol. 20, p. 354. 1 column.

**PROSPECTING IN THE NORTH.** By H. V. Winchell. Min. Mag., London, vol. 3, p. 436. 4½ columns.

**PROSPECTING IN CHINA.** By G. F. Ober. Min. Mag. London, vol. 4, p. 223. 1½ columns.

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**USE OF THE DIVINING ROD.** Min. & Sci. Press, vol. 95, p. 500. ¼ column.

**THE DIVINING ROD.** Min. & Sci. Press, vol. 101, p. 711. ¼ column.

**DIVINING RODS.** By E. S. Giles. Min. & Sci. Press, vol. 97, p. 151. ¼ column.

**THE DIVINING ROD: A Scientific Test.** E. & M. J., vol. 85, p. 1158. 1½ columns.

**THE DIVINING ROD.** By R. W. Raymond. U. S. G. S., Mineral Resources, 1882, vol. 17. 17 pages.

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**MINING DISCOVERY:** The Divining Rod. Min. Mag., vol. 10, p. 51. 3 pages.

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**TO DETERMINE THE VALUE OF A MINE.** Min. Mag., vol. 1, p. 607. 6 pages.

**PRESENT VALUE OF MINES.** P. C. M. & M. Soc. S. A., vol. 5, p. 185. ½ column.

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**GRAPHIC METHODS FOR MINE VALUATION.** By H. C. Jenkins. Min. Mag., London, vol. 2, p. 287. 6 columns. I.

**THE COMPUTATION OF THE PRESENT VALUE OF DEVELOPED AND UNDEVELOPED MINES.** By W. H. Goodchild. T. I. M. & M., vol. 18, p. 367. 46 pages. D.

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**COMPUTING TONNAGE FROM VOLUME OF ORE REMOVED.** By S. L. Lefevre and G. C. Stoltz. E. & M. J., vol. 87, p. 350. 1½ columns. I.

**THE VALUATION OF PUBLIC LANDS: The Value of Coal Land.** By G. H. Ashley. U. S. G. S., Bull. 424. 75 pages. 1910.

**DEPTH AND MINIMUM THICKNESS OF BEDS (COAL) AS LIMITING FACTORS IN VALUATION.** By C. A. Fisher. U. S. G. S., Bull. 424. 75 pages. 1910.

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**CALCULATING VALUE IN PLACER GROUND.** By O. H. Packer. Min. & Sci. Press, vol. 101, p. 810. 3½ columns. D.

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- DEVELOPMENT OF A SLOPE MINE. M. & M., vol. 30, p. 340. Map.
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- DEVELOPMENT AT THE COMBINATION MINE. Min. & Sci. Press, vol. 95, p. 435. 6 columns. I.
- THE GIROUX SHAFT AT KIMBERLY, NEVADA. By C. E. Arnold. T. A. I. M. E., vol. 41, p. 536.  $5\frac{1}{2}$  pages. I.
- DEVELOPMENT AT THE CRESSON MINE, CRIPPLE CREEK, COLORADO. M. & M., vol. 31, p. 737. 2 columns.
- DEVELOPING POVERTY GULCH CLAIMS. By C. W. Henderson. M. & M., vol. 31, p. 727.  $8\frac{1}{2}$  columns. I.
- METHOD OF DEVELOPMENT IN THE TREADWELL MINES. Min. & Sci. Press, vol. 97, p. 85. 4 columns. I.
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- DEVELOPMENT OF THE ST. JOHN DEL REY MINES IN BRAZIL. Min. Mag., London, vol. 3, p. 465. 1 column. I.
- DEVELOPMENT OF THE EUGENE MINE, KOOTENAY, BRITISH COLUMBIA. E. & M. J., vol. 89, p. 420. 1 column. I.
- THE DEVELOPMENT OF AN ORE SHOOT IN NOVA SCOTIA. By E. P. Brown. J. M. Soc. N. S., vol. 12, p. 57.  $4\frac{1}{2}$  pages. I.
- DEVELOPMENT AT THE GRANBY MINES. J. C. M. I., vol. 11, p. 394.  $6\frac{1}{2}$  pages. I.
- SHAFTS AT THE MOUNT MORGAN MINE. E. & M. J., vol. 87, p. 751.  $1\frac{1}{4}$  columns.
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- RECENT WORK ON THE COMSTOCK. By W. D. O'Brien. Min. & Sci. Press, vol. 96, p. 804.  $4\frac{1}{2}$  columns. I.
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- DEVELOPMENT AT THE ESPERANZA MINE, EL ORO, MEXICO. By W. E. Hindry. Min. & Sci. Press, vol. 99, p. 822. 7 columns. I.
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- A MINING PUZZLE: Exploration at Broken Hill, New South Wales. By N. Dudley. T. Au. I. M. E., vol. 2, p. 111. 3 pages.
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- See also COST OF DEVELOPMENT.
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- SHAFT SINKING. By C. K. Colvin. Min. & Sci. Press, vol. 85, p. 191. 2 columns.
- IMPROVED SHAFT SINKING METHODS AT DUCKTOWN. By W. Y. Westervelt. E. & M. J., vol. 89, p. 275.  $3\frac{1}{2}$  columns. I.
- NOTES ON VERTICAL SHAFT SINKING ON THE WITWATERSRAND. By H. F. Roche. P. C. M. & M. Soc. S. A., vol. 5, p. 200, 8 columns, I.; p. 259,  $7\frac{1}{2}$  columns; p. 312,  $3\frac{1}{4}$  columns; vol. 6, p. 17, 3 columns.
- SINKING THE WOODWARD NO. 3 SHAFT. By R. V. Norris. E. & M. J., vol. 89, p. 1182.  $12\frac{1}{2}$  columns. I.
- THE GIROUX SHAFT AT KIMBERLY, NEVADA. By C. E. Arnold. E. & M. J., vol. 89, p. 1325. 5 columns. I.
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- THE SINKING AND EQUIPMENT OF THE LITTLETON COLLIERIES. By T. H. Bailey. T. I. M. E., vol. 39, p. 418. 38 pages. I.
- SINKING INTO THE LOWER COAL-MEASURE AT HULTON COLLIERY. By A. J. Tonge. T. I. M. E., vol. 39, p. 350.  $12\frac{1}{2}$  pages. I.
- THE SINKING OF THE ASTTEY GREEN SHAFTS, AT ASTTEY, NEAR MANCHESTER, BY MEANS OF THE DROP-SHAFT METHOD AND UNDERHANGING TUBING. By C. Pilkington and P. L. Wood. T. I. M. E., vol. 39, p. 529. 25 pages. I.

- SHAFT SINKING AT STELLA MINE, NEW YORK.** E. & M. J., vol. 88, p. 617. 2 columns. I.
- SINKING THE JOHN SHAFT AT HAMSTERLEY COLLERY, THROUGH SAND AND GRAVEL, BY MEANS OF UNDERGROUND TUBBING.** By J. Cummins. T. I. M. E., vol. 38, p. 320. 13 pages. I.
- SINKING THE CLONAN SHAFT AT MINEVILLE, NEW YORK.** By G. C. Stoltz. E. & M. J., vol. 85, p. 111. 4 columns. I.
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- SINKING OPERATIONS AT WELLESLEY NEW FITTING, WEMYSS COLLIERIES.** By G. D. Budge and P. Dunsire. T. I. M. E., vol. 36, p. 318. 6½ pages. I.
- SINKING AND TIMBERING OF THE ALLAN SHAFTS, NEAR STELLARTON, NOVA SCOTIA.** By H. E. Coll. J. M. Soc. N. S., vol. 12, p. 12. 12 pages. I.
- SHAFT SINKING AT QUINCY MINE, MICHIGAN.** J. C. M. I., vol. 10, p. 401. 1 page. I.
- SINKING THROUGH BAD GROUND.** By F. W. Adgate. Min. & Sci. Press, vol. 95, p. 183. 4½ columns. I.
- SHAFT SINKING IN SOFT GROUND BY FORE-POLING.** M. & M., vol. 29, p. 515. 2 columns. I.
- SHAFT SINKING THROUGH FAULTED GROUND.** E. & M. J., vol. 87, p. 215. 1½ columns.
- SHAFT SINKING IN DANGEROUS GROUND.** Min. Mag., London, vol. 2, p. 293. 2 columns. I.
- SINKING A WET SHAFT AT TOMBSTONE.** By E. W. Walker. Min. & Sci. Press, vol. 98, p. 284. 3 columns. I.
- SINKING THROUGH SAND AT NEW-BIGGIN COLLERY.** By E. M. Bainbridge and W. M. Redfearn. T. I. M. E., vol. 38, p. 577. 16 pages. I.
- SHAFT SINKING IN QUICKSAND AND BOULDERS.** By G. W. Stuart. J. M. Soc. N. S., vol. 11, p. 69. 5½ pages.
- SHAFT SINKING BY CEMENTATION.** By L. Morin. E. & M. J., vol. 86, p. 221. 6 columns. I.
- See also **SHAFT LINING.**
- PUDDLING A WET SHAFT.** By H. Bourquin. Min. & Sci. Press, vol. 96, p. 127. 2½ columns. I.
- SINKING A SHAFT WITH DROP-SHAFT AND AIR-LOCK.** Sch. Mines Quart., vol. 31, p. 219. 5 pages. I.
- THE DROP-SHAFT METHOD OF SINKING.** E. & M. J., vol. 90, p. 918. 4½ columns. I.
- SHAFT SINKING BY CAISSENS OR DROP-SHAFTS.** M. & M., vol. 29, p. 517. 3½ columns. I.
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- SINKING A WINZE WITH LONG HOLES.** By G. C. McFarlane. E. & M. J., vol. 86, p. 713. 1½ columns. I.
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- See also **USE OF BORE HOLES, DIAMOND AND ROTARY DRILLS, and CHURN DRILLS.**
- THE USE OF THE CHANNELING MACHINE IN MINING OPERATIONS: A PROPOSED METHOD.** Min. & Sci. Press, vol. 101, p. 707. 5 columns. I.
- DRIVING VERTICAL RAISES WITH STOPPING DRILLS.** By A. O. Christensen. E. & M. J., vol. 88, p. 937. 2½ columns. I.
- DRIVING INCLINED RAISES WITH STOPPING DRILLS.** By A. O. Christensen. E. & M. J., vol. 88, p. 618. 2 columns. I.

**DRIVING A SLOPE IN NEWFOUNDLAND.** M. & M., vol. 31, p. 569. 7 columns. I.

**BORING LARGE SHAFTS.** Min. & Sci. Press, vol. 20, p. 257, 2 columns, I.; p. 272, 1½ columns, I.

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**RECORD OF SHAFT SINKING AT NO. 1 SKY LINE MINE.** Min. & Sci. Press, vol. 88, p. 40. Table.

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**SKIPS OR BUCKETS IN SINKING VERTICAL SHAFTS.** By C. B. Saner. E. & M. J., vol. 87, p. 644. 7 columns.

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- SOME REMARKS ON COAL MINING.** By J. Marlor. Min. Mag., vol. 5, p. 415, 4 pages; p. 458, 10½ pages; vol. 6, p. 27, 13½ pages; p. 107, 10 pages; p. 213, 12½ pages; p. 323, 10 pages.
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- COAL MINING AT DANTE, VIRGINIA.** By R. W. Stone. U. S. G. S., Bull. 316, p. 68. 8 pages. I. 1906.
- METHOD OF MINING COAL IN WASHINGTON.** M. & M., vol. 30, p. 17. ½ column. I.
- METHODS OF MINING COAL IN WEST VIRGINIA.** M. & M., vol. 29, p. 509. 11½ columns. I.
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**PITCH MINING IN THE HAZLETON DISTRICT.** By D. S. Wolfe. Coal Mining Supplement, E. & M. J., vol. 88, p. 25.  $5\frac{1}{2}$  columns. I.

**METHODS OF MINING LIGNITE IN ITALY.** By C. R. King. E. & M. J., vol. 89, p. 1176.  $17\frac{1}{2}$  columns. I.

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#### Room-and-Pillar Mining

**A ROOM-AND-PILLAR METHOD.** By A. E. Robinson. M. & M., vol. 31, p. 88.  $\frac{1}{2}$  column. I.

**ROOM-AND-PILLAR MINING IN THE GREAT FALLS COAL FIELD, MONTANA.** E. & M. J., vol. 87, p. 588.  $\frac{3}{4}$  column. I.

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**ROOM-AND-PILLAR METHOD OF WORKING COAL, GARY, WEST VIRGINIA.** E. & M. J., vol. 88, p. 9. Map.

**ADVANCE AND RETREAT ROOM-AND-PILLAR SYSTEM.** By H. J. Nelms. E. & M. J., vol. 89, p. 879.  $2\frac{1}{2}$  columns. I.

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**COAL MINING AT KAYLOR, PENNSYLVANIA.** By E. K. Judd. E. & M. J., vol. 88, p. 453. 1½ columns. I.

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**MINING OF BORAX IN AMERICA:** Room-and-Pillar Method. E. & M. J., vol. 88, p. 827. 1 column.

**MICA MINING.** By A. S. Atkinson. E. & M. J., vol. 87, p. 941. 3½ columns.

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### Longwall Mining

**ON THE WORKING OF THIN SEAMS OF COAL, WITH OBSERVATIONS ON LONGWALL AND BORD-AND-PILLAR WORK.** By C. C. Greenwell. Min. Mag., vol. 9, p. 413, 6 pages; p. 494, 12½ pages.

**LONGWALL IN INCLINED SEAMS.** By J. G. MacKenzie. M. & M., vol. 29, p. 491. 3½ columns. I.

**INFLUENCE OF CLEAT IN LONGWALL MINING.** E. & M. J., vol. 85, p. 213. 1½ columns.

See also GEOLOGIC PROGRESS AND STUDIES.

**PANEL LONGWALL MINING.** E. & M. J., vol. 85, p. 894. 1½ columns.

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**AMERICAN LONGWALL MINING METHODS.** By H. M. Payne. E. & M. J., vol. 90, p. 1020. 8 columns. Maps.

**LONGWALL METHODS OF MINING A COAL SEAM.** By L. W. Mayer. E. & M. J., vol. 86, p. 19. 13 columns. I.

**LONGWALL ADVANCING IN ANTHRACITE MINING IN PENNSYLVANIA.** M. & M., vol. 29, p. 40. 1 column. I.

**THE LONGWALL MINES OF ILLINOIS.** By W. F. Pellier. E. & M. J., vol. 89, p. 380. 5 columns. I.

**THE LONGWALL METHOD OF WORKING IN ENGLAND.** By Geo. R. Dixon. E. & M. J., vol. 85, p. 1145. 11½ columns. I.

**LONGWALL ADVANCING IN THE ST. ÉTIENNE COAL MINES.** T. I. M. E., vol. 36, p. 406. 2 pages. I.

**LONGWALL MINING IN CARMAUX, FRANCE.** E. & M. J., vol. 86, p. 576. 4 columns. I.

**LONGWALL MINING AT SEATON-DE-LAVAL COLLERY, ENGLAND.** E. & M. J., vol. 86, p. 765. 8 columns. I.

**LONGWALL METHOD IN ENGLAND.** E. & M. J., vol. 86, p. 964. 3 columns. I.

**LONGWALL MINING IN THE KANSAS STATE MINE.** E. & M. J., vol. 89, p. 1159. 9 columns. I. Map.

**THE LONGWALL METHOD OF MINING EMPLOYED IN THE FROZEN GRAVELS OF THE NORTH.** Min. & Sci. Press, vol. 98, p. 382. 8 columns. I.

See also MINING FROZEN GRAVELS, METHODS OF MINING COAL and COST OF COAL MINING.

### Panel Mining

**MINING COAL WITH THE PANEL SYSTEM.** By A. H. Stow. E. & M. J., vol. 85, p. 892. 10½ columns. I.

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### Drawing Pillars in Coal Mines

**PILLAR DRAWING.** By J. Jenkins. M. & M., vol. 30, p. 151. 4 columns. I.

**DRAWING PILLARS IN COAL MINING.** M. & M., vol. 31, p. 415. ½ column. I.

**METHODS OF REMOVING COAL PILLARS.** By F. W. Cunningham. M. & M., vol. 31, p. 495. 8 columns. I.

**DRAWING OF PILLARS IN THE PITTSBURG SEAM.** E. & M. J., vol. 90, p. 521. 10 columns. I.

**METHOD OF ROBBING PILLARS IN THE POCAHONTAS REGION.** M. & M., vol. 29, p. 399. 1 column. I.

**PILLAR DRAWING IN THE CONNELLSVILLE REGION.** T. A. I. M. E., vol. 41, p. 229. 10 pages. I.

**ROBBING PILLARS IN THE PITCHING COAL SEAMS, HAZLETON DISTRICT.** Coal Mining Supplement, E. & M. J., vol. 88, p. 27.  $\frac{1}{2}$  column.

**RECOVERING ABANDONED COAL PILLARS.** By W. L. Hamilton. E. & M. J., vol. 88, p. 22. 6 columns. I.

**WORKING THE WALLS OR DRAWING PILLARS IN COAL MINING BY LONG-WALL.** M. & M., vol. 29, p. 492. 1 column.

**ROBBING PILLARS AT THE SEATON-DELAVAL COLLIERY, ENGLAND.** E. & M. J., vol. 86, p. 768. 1 column. I.

**ROBBING PILLARS IN THE NORTHUMBERLAND MINES, ENGLAND.** E. & M. J., vol. 85, p. 411. 1 column.

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**METHODS OF MINING AND HANDLING ORE IN BUTTE.** By E. Higgins. E. & M. J., vol. 85, p. 97. 8 columns. I.

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**MINING METHODS EMPLOYED AT CANANEA, MEXICO.** By M. J. Elsing. E. & M. J., vol. 90, p. 914,  $9\frac{1}{2}$  columns, I.; p. 963,  $10\frac{1}{2}$  columns, I.

**MINING METHODS IN THE CLIFTON-MORENCI DISTRICT, ARIZONA.** Min. & Sci. Press, vol. 101, p. 831. 12 columns. I.

**MICHIGAN COPPER MINING METHODS.** By L. Fraser. Min. & Sci. Press, vol. 96, p. 847.  $6\frac{1}{2}$  columns. I.

**WORK AND METHODS AT THE YELTA COPPER MINE, SOUTH AUSTRALIA.**

- By L. G. Hancock. T. Au. I. M. E., vol. 11, p. 97. 7 pages.
- UNDERGROUND MINING METHODS AT THE QUINCY COPPER MINE, MICHIGAN.** By G. R. McLaren. J. C. M. I., vol. 10, p. 399. 18½ pages. I.
- METHODS OF MINING IRON ORE AT SUNRISE, WYOMING.** By B. W. Vallat. E. & M. J., vol. 85, p. 399. 9½ columns. I.
- MINING ON THE GOGBIC RANGE.** By P. S. Williams. M. & M., vol. 31, p. 712. 4½ columns. I.
- METHOD OF MINING AT THE NORTH STAR MINES, GRASS VALLEY, CALIFORNIA.** E. & M. J., vol. 87, p. 397. 2 columns. I.
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- NEW MINING AND MILLING PRACTICE ON THE RAND.** By E. M. Weston. E. & M. J., vol. 86, p. 323. 5 columns.
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- SOME NOTES ON THE MINING PRACTICE OF THE WITWATERSRAND GOLD FIELDS, SOUTH AFRICAN REPUBLIC.** By G. A. Denny. T. Au. I. M. E., vol. 5, p. 8. 62 pages. I.
- MINING METHODS AT KALGOORLIE, WEST AUSTRALIA MINES.** E. & M. J., vol. 85, p. 196. 1 column.
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- METHODS OF DEEP LEAD MINING.** P. C. M. & M. Soc. S. A., vol. 10, p. 377. 2½ columns.
- METHOD OF MINING THE DEEP LEAD IN AUSTRALIA.** By D. H. Browne. Min. & Sci. Press, vol. 97, p. 568. 2 columns.
- See also **AUSTRALIA, OCCURRENCE OF GOLD, and AURIFEROUS GRAVELS.**
- PRACTICAL HINTS ON DEEP ALLUVIAL MINING.** By D. H. Browne. T. Au. I. M. E., vol. 7, p. 61. 10 pages.
- THE STULL-SET METHOD OF MINING AT THE HECLA MINE, IDAHO.** E. & M. J., vol. 89, p. 312. 1 column.
- SQUARE-SET MINING, MOUNT MORGAN MINE.** E. & M. J., vol. 87, p. 749. 1 column. I.
- SQUARE-SET SYSTEM IN THE NEW SOUTH WALES MINES.** T. Au. I. M. E., vol. 9, p. 119. 4½ pages. I.
- See also **SQUARE-SET TIMBERING.**
- MINING AND STOPING METHODS IN THE COEUR D'ALENE.** By J. Tysowski. E. & M. J., vol. 90, p. 452. 8½ columns. I.
- MINING METHOD IN THE COEUR D'ALENE REGION.** Min. & Sci. Press, vol. 96, p. 622. 4 columns. I.
- GRANBY MINING METHODS.** By C. M. Campbell. J. C. M. I., vol. 11, p. 392. 12 pages. I.
- METHODS OF MINING IN THE GRANBY ORE BODIES.** By C. M. Campbell. E. & M. J., vol. 87, p. 252. 13½ columns. I.

**DEPARTURE IN SHEET-ORE MINING IN THE JOPLIN DISTRICT.** By T. Chapman. E. & M. J., vol. 87, p. 942. 1 column. I.

**METHOD OF MINING EMPLOYED IN THE LEAD MINES OF MECHERNICH, PRUSSIA.** E. & M. J., vol. 86, p. 169. 9½ columns. I.

**METHODS OF WORKING THE NITER DEPOSITS OF CHILE.** E. & M. J., vol. 80, p. 20. 3 columns. I.

**THE WORKING OF OIL-SHALE AT PUMPERSTON, SCOTLAND.** By W. Caldwell. T. I. M. E., vol. 36, p. 581. 9½ pages. I.

**MINING METHODS IN THE NORTH.** By T. A. Rickard. Min. & Sci. Press, vol. 97, p. 810, 8 columns, I.; vol. 98, p. 86, 8 columns, I.; p. 382, 8 columns, I.; p. 587, 10 columns, I.

**DRY-WALL MINING AT PANAGUN, BRAZIL.** Min. Mag., London, vol. 3, p. 379. 1½ columns. I.

**A REVOLUTION IN MINING METHODS.** By G. E. Walcott. Min. & Sci. Press, vol. 101, p. 707. 6 columns. I.

**A METHOD OF MINING IN HEAVY GROUND.** By W. L. Fleming. E. & M. J., vol. 88, p. 375. 3½ columns. I.

**THE PANEL SYSTEM AS APPLIED TO METAL MINING.** By H. E. West. E. & M. J., vol. 87, p. 1177. 8 columns. I.

See also ROOM AND PILLAR MINING, and METHODS OF COAL MINING.

**RALEIGH COUNTY MINING METHODS, WEST VIRGINIA.** By H. H. Stoek. M. & M., vol. 29, p. 471. 10 columns. I.

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#### **Mining Thick and Massive Deposits**

**THE MILLING METHOD OF MINING AS EMPLOYED AT THE HELEN IRON MINE.** J. C. M. I., vol. 13, p. 123. 4 pages. I.

**MINING THE TREADWELL LODE.** By T. A. Rickard. Min. & Sci. Press, vol. 97, p. 85. 7½ columns. I.

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**METHODS OF MINING EMPLOYED AT THE CREIGHTON MINE, SUDBURY, CANADA.** J. C. M. I., vol. 11, p. 574. 6 pages. I.

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**METHOD OF MINING AT THE DE BEERS DIAMOND MINES.** P. C. M. & M. Soc. S. A., vol. 7, p. 228. ½ column.

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#### **The Caving Systems of Mining**

**THE DOME OF EQUILIBRIUM AND THE CAVING SYSTEM OF MINING.** By C. T. Rice. Min. & Sci. Press, vol. 95, p. 85. 2½ columns.

**THE CAVING SYSTEM AT THE DARIEN MINE, PANAMA.** By A. B. Chase. Min. & Sci. Press, vol. 95, p. 238. 1½ columns. I.

**THE CAVING METHOD AS EMPLOYED AT THE CONSOLIDATED MERCUR MINES.** E. & M. J., vol. 89, p. 1273. 13\*columns. I.

**CANANEA CAVING AND SLICING SYSTEMS.** By R. L. Herrick. M. & M., vol. 30, p. 23. 13½ columns. I.

**TOP-SLICING MINING METHODS AT CANANEA, MEXICO.** By C. De Kalb. Min. & Sci. Press, vol. 101, p. 230. 2½ columns. I.

**THE TOP-SLICE SYSTEM AT CANANEA.** M. & M., vol. 30, p. 23. 13 columns. I.

**THE SLICING SYSTEM AT CANANEA, MEXICO: A CAVING METHOD.** E. & M. J., vol. 90, p. 915. 1½ columns. I.

**THE CAVING SYSTEM AT CANANEA: CAVING PILLARS.** E. & M. J., vol. 90, p. 963. 4 columns. I.

**CAVING METHODS IN THE ARIZONA COPPER MINES:** Top-Slice and Sub-Drift Methods. Min. & Sci. Press, vol. 99, p. 392. 1½ columns. I.

**THE MITCHELL SLICING SYSTEM AT BISBEE, ARIZONA.** By M. J. Elsing. E. & M. J., vol. 90, p. 174. 6 columns. I.

**THE MITCHELL SLICING SYSTEM AT BISBEE, ARIZONA.** E. & M. J., vol. 90, p. 1291. 2½ columns.

**THE TOP-SLICE SYSTEM AT METCALF, ARIZONA.** E. & M. J., vol. 90, p. 120. ½ column. I.

**BLOCK-CAVING AT THE CLIFTON-MORENCI MINES.** Min. & Sci. Press, vol. 101, p. 835. 1 column. I.

**THE CAVING SYSTEM OF MINING EMPLOYED AT MIAMI, ARIZONA.** M. & M., vol. 30, p. 755. 4 columns. I.

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**METHOD OF MINING AT MIAMI, ARIZONA:** Top-Slice and Sub-Drift Caving Systems. Min. & Sci. Press, vol. 99, p. 657. 3 columns. I.

**THE CAVING METHOD AS EMPLOYED IN THE GLOBE-KELVIN DISTRICT, ARIZONA.** E. & M. J., vol. 89, p. 813. 2 columns. I.

**CAVING AT BINGHAM CANYON, UTAH.** Min. & Sci. Press, vol. 98, p. 520, 3 columns, I.; p. 555, 3 columns, I.

**THE CAVING SYSTEM OF MINING AT ELY, NEVADA.** M. & M., vol. 29, p. 25, ¼ column; p. 83, ½ column.

**IRON MINING IN MINNESOTA.** By E. K. Soper. Min. & Sci. Press, vol. 101, p. 767. 5½ columns. I.

**MARQUETTE RANGE CAVING METHOD.** By H. H. Stoek. M. & M., vol. 30, p. 193. 14½ columns. I.

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**CHANGE OF METHOD IN MINING SOFT ORE.** By S. R. Elliott. Min. & Sci. Press, vol. 99, p. 97. 4 columns. I.

**THE TOP-SLICE METHOD IN THE GOGEVIC RANGE.** M. & M., vol. 31, p. 712. 4½ columns. I.

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#### Pocket Mining

**O'HARA POCKET MINE, TUOLUMNE COUNTY, CALIFORNIA.** Min. & Sci. Press, vol. 96, p. 782. 1½ columns. I.

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**PORTABLE SCAFFOLD FOR MINE USE.** E. & M. J., vol. 89, p. 404. 1 column. I.

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- STOPING AT THE QUINCY MINE, MICHIGAN. J. C. M. I., vol. 10, p. 405 1½ pages. I.
- STOPING METHODS IN MINES OF DUCKTOWN BASIN: Underhand Work. By J. Tyssowski. E. & M. J., vol. 89, p. 463. 5 columns. I.
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- STOPING AT HOMESTAKE MINE, SOUTH DAKOTA. By J. Tyssowski. E. & M. J., vol. 90, p. 74. 7½ columns. I.
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- SHRINKAGE STOPING AT DUCKTOWN MINES.** E. & M. J., vol. 89, p. 464. 1 column. I.
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- SHRINKAGE STOPING IN WESTERN AUSTRALIA.** By F. P. Rolfe. M. & M., vol. 30, p. 210.  $6\frac{1}{2}$  columns. I.
- THE SHRINKAGE OR "LAY" SYSTEM OF STOPING.** P. C. M. & M. Soc. S. A., vol. 10, p. 301.  $\frac{1}{2}$  column.
- SHRINKAGE STOPING IN WESTERN AUSTRALIA.** P. C. M. & M. Soc. S. A., vol. 10, p. 30.  $\frac{1}{2}$  column.
- THE SHRINKAGE SYSTEM OF STOPING AT CANANEA.** E. & M. J., vol. 90, p. 964. 2 columns. I.

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**STOPING AT THE CABIN BRANCH MINE, VIRGINIA.** By J. Tyssowski. E. & M. J., vol. 89, p. 32.  $1\frac{1}{2}$  columns.

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#### **Under-Sea Mining**

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**SUBMARINE MINING.** Min. Mag., vol. 8, p. 56. 4 pages.

**SUBMARINE DIVERS IN MINES.** By G. F. Duck. M. & M., vol. 31, p. 446.  $1\frac{1}{2}$  columns.

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**THE FILLING SYSTEM APPLIED TO WIDE ORE BODIES.** E. & M. J., vol. 87, p. 1178. 5 columns. I.

**THE SPUELVERSATZ METHOD OF HYDRAULIC FILLING.** E. & M. J., vol. 89, p. 306. 1 column. I.

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**FILLING STOPES IN THE AUSTRALIAN MINES.** T. Au. I. M. E., vol. 7, p. 197. 18 pages. I.

**FILLING STOPES WITH TAILING AT KALGOORLIE.** Min. Mag., London, vol. 3, p. 452. 1 column. I.

**THE FILLING SYSTEMS AT THE BROKEN HILL MINES, NEW SOUTH WALES.** E. & M. J., vol. 86, p. 794. 4 columns. I.

**FILLING STOPES IN THE AUSTRALIAN MINES.** T. Au. I. M. E., vol. 7, p. 197. 18 pages. I.

**FLUSHING IN METAL MINES.** E. & M. J., vol. 86, p. 4. 1 column.

**SILTING AT WAIHI.** By A. Jarman. Min. Mag., London, vol. 3, p. 191. 8 columns. I.

**FILLING METHOD OF MINING AT THE HOMESTAKE MINE.** E. & M. J., vol. 90, p. 74.  $7\frac{1}{2}$  columns. I.

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**FILLING ABANDONED WORKINGS WITH CUEM OR SAND:** European Practice. By H. M. Payne. E. & M. J., vol. 89, p. 522. 4 $\frac{1}{2}$  columns. I.

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**DEEP MINING AT BENDIGO.** By W. J. Rickard. Min. Mag., London, vol. 3, p. 281. 4 columns. I.

**DEEP MINING IN TRANSVAAL.** By R. Gascoyne. Min. & Sci. Press, vol. 101, p. 332. 4 $\frac{1}{2}$  columns. I.

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**A WORD ABOUT HYDRAULIC MINING.** Min. & Sci. Press, vol. 20, p. 5. 1½ columns. I.

**HYDRAULIC MINING OF AURIFEROUS GRAVELS.** By J. W. Phillips. J. W. Soc. E., vol. 15, p. 431. 40 pages. I.

**EXAMINING AND FITTING UP A HYDRAULIC MINE.** By H. A. Brigham. E. & M. J., vol. 86, p. 1257, 10½ columns; vol. 87, p. 23, 19½ columns, I.

**MOBILITY IN PLACER MINING.** By J. P. Hutchins. Min. Mag., London, vol. 3, p. 60. 3½ columns. I.

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**ART OF PLACER PIPING.** By D. H. Stovall. Min. & Sci. Press, vol. 99, p. 661. 2½ columns. I.

**USE OF BY-WATER SUPPLY FOR HYDRAULIC MINING.** By D. H. Stovall. Min. & Sci. Press, vol. 101, p. 119. 2½ columns. I.

**ALLUVIAL MINING: Its Necessary Plant and Appliances.** By S. C. N. Bell. T. Au. I. M. E., vol. 12, p. 30. 32 pages.

**THE HYDRAULIC EQUIPMENT OF THE OLD CHANNEL MINES.** By J. M. Nicol. Min. & Sci. Press, vol. 95, p. 333. 6 columns. I.

**PUMP SLUICING FOR GOLD.** By H. Herman. Min. & Sci. Press, vol. 98, p. 252. 2½ columns.

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**HAND SLUICING AT NOME AND THE YUKON.** Min. & Sci. Press, vol. 98, p. 86. 8 columns. I.

**DITCHES IN HYDRAULIC MINING.** E. & M. J., vol. 87, p. 28. 1½ columns.

**THE YUKON DITCH.** By T. A. Rickard. Min. & Sci. Press, vol. 98, p. 117, 7½ columns, I.; p. 148, 6½ columns, I.

**THE BONANZA DITCH OF THE YUKON GOLD COMPANY.** By E. Jacobs. E. & M. J., vol. 88, p. 457. 2 columns. I.

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**HYDRAULICKING THE COVER OFF A VEIN.** Min. & Sci. Press, vol. 99, p. 788. 2½ columns. I.

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**GRAVEL ELEVATION IN SISKIYOU COUNTY, CALIFORNIA.** By C. S. Haley. Min. & Sci. Press, vol. 101, p. 701. 2½ columns. I.

**THE RUBLE HYDRAULIC ELEVATOR.** By J. McD. Porter. E. & M. J., vol. 88, p. 1213. 5 columns. I.

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**A ROCKER.** By D. Waterman. Min. & Sci. Press, vol. 98, p. 293. 1½ columns. I.

**THE BUTARA OR WASHING MACHINE FOR GOLD GRAVELS IN SIBERIA.** Min. & Sci. Press, vol. 99, p. 423. ½ column. I.

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- CLEANING UP AN OLD MILL YARD: Hydraulicking a Mill Site for Gold in California.** By W. H. Storms. E. & M. J., vol. 89, p. 646. 3 columns. I.
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- PHILIPPINE PLACER MINING.** Min. & Sci. Press, vol. 99, p. 267. ¼ column.
- THE BRANDY CITY HYDRAULIC MINE.** By G. F. Taylor. E. & M. J., vol. 89, p. 1152. 3 columns. I.
- METHOD OF WORKING LUMPKIN COUNTY PLACERS, GEORGIA.** Min. Mag., vol. 10, p. 469.
- GOLD MINING BY THE HYDRAULIC PROCESS IN NORTH CAROLINA AND GEORGIA.** By T. L. Clingman. Min. Mag., vol. 10, p. 27. 4 pages.
- PROSPECTING AND MINING GOLD PLACERS IN ALASKA.** By J. P. Hutchins. U. S. G. S., Bull. 345, p. 54. 24 pages. 1907.
- See also PROSPECTING, ETC.
- HYDRAULIC MINING IN ALASKA.** By T. A. Rickard. Min. Mag., London, vol. 1, p. 139. 6 columns. I.
- PLACER MINING IN ALASKA IN 1904.** By A. H. Brooks. U. S. G. S., Bull. 259, p. 18. 13 pages.
- METHODS AND COSTS OF GRAVEL AND PLACER MINING IN ALASKA.** By C. W. Purington. U. S. G. S., Bull. 263. 273 pages. I. 1905.
- NOME PLACER MINING.** By T. M. Gibson. Min. & Sci. Press, vol. 101, p. 809. 3½ columns.
- PLACER MINING IN THE YUKON-TANANA REGION, ALASKA.** By C. E. Ellsworth. U. S. G. S., Bull. 442, p. 230. 16 pages. 1909.
- MINING IN THE FAIRHAVEN PRECINCT.** By F. F. Henshaw. U. S. G. S., Bull. 379, p. 355. 15 pages. I. 1908.
- PLACER GOLD MINING IN INTERIOR ALASKA.** E. & M. J., vol. 87, p. 591. 9 columns.
- PLACER MINING OPERATIONS IN ALASKA IN 1909.** By A. H. Brooks. E. & M. J., vol. 90, p. 412. 8½ columns. Map.
- MINING AND MINING METHODS OF THE YUKON.** By A. A. Bare. J. C. M. I., vol. 11, p. 545. 24 pages. I.
- HYDRAULIC MINING IN COLOMBIA.** Min. & Sci. Press, vol. 98, p. 220. ½ column. I.
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- ELECTRICAL COLLERY INSTALLATIONS IN SCOTLAND. By J. B. Van Brussell. E. & M. J., vol. 89, p. 782. 8½ columns. I.
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**EXPERIMENTS WITH TWO ELECTRICALLY DRIVEN PUMPS.** By T. L. Galloway. T. I. M. E., vol. 36, p. 82. 11 pages.

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**Power Transmission: Electricity, Steam, Water and Miscellaneous**

**THE DEVELOPMENT AND OPERATION OF A LARGE ELECTRIC TRANSMISSION AND CONVERSION SYSTEM.** By E. F. Smith. J. W. Soc. E., vol. 12, p. 409. 29 pages. I.

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## REDUCTION

**The Reduction of Ores: Methods and Practice**

**ORE CRUSHING.** P. C. M. & M. Soc. S. A., vol. 9, p. 62. 4 column.

**CRUSHING ORE.** By M. P. Bass. Min. & Sci. Press, vol. 96, p. 354. 13 columns. I.

**THE MECHANICS OF ORE CRUSHING.** By C. De Kalb. Min. & Sci. Press, vol. 96, p. 155. 2 $\frac{1}{2}$  columns. I.

**CRUSHING BY STAGES.** By A. Del Mar. Min. & Sci. Press, vol. 101, p. 614. 2 $\frac{1}{2}$  columns.

**STAGE CRUSHING.** By H. W. Hardinge. E. & M. J., vol. 89, p. 221. 3 columns.

**NOVEL HAND CRUSHING DEVICE.** By H. L. Jene. E. & M. J., vol. 87, p. 788. 1 $\frac{1}{2}$  columns. I.

**BREAKING ORE BY TRIP HAMMER, EL COBRE, CUBA.** M. & M., vol. 31, p. 451. I.

**ECONOMY OF POWER IN CRUSHING ORE.** By E. A. Hersam. Min. & Sci. Press, vol. 95, p. 621. 12 columns.

**THE CALCULATION OF THE COMPARATIVE EFFICIENCIES OF CRUSHING AND GRINDING MACHINES.** By R. W. Chapman. T. Au. I. M. E., vol. 13, p. 154. 4 pages. I.

**ON TESTING REDUCING MACHINERY.** By F. D. Power. T. Au. I. M. E., vol. 2, p. 81. 3 $\frac{1}{4}$  pages.

**SOME NOTES ON DRY CRUSHING.** By N. F. White. T. Au. I. M. E., vol. 6, p. 37. 24 pages. I.

**THE RISE AND FALL OF DRY CRUSHING ON THE HAURAKI GOLDFIELD.** By P. Morgan. T. Au. I. M. E., vol. 9, p. 161. 15 pages.

**PRACTICAL NOTES ON DRY CRUSHING MILLS IN WESTERN AUSTRALIA.** P. C. M. & M. Soc. S. A., vol. 10, p. 222. 5 columns.

**DRY CRUSHING AT THE CONSOLIDATED MERCUR MINES.** E. & M. J., vol. 89, p. 1277. 1 column.

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**WESTRALIAN WET CRUSHING PLANTS, WITH SOME NOTES ON LABOUR EFFICIENCY.** By G. W. Williams. P. C. M. & M. Soc. S. A., vol. 8, p. 232, 14 $\frac{1}{2}$  columns; p. 277, 1 $\frac{1}{2}$  columns; p. 345, 1 $\frac{1}{2}$  columns; p. 383, 1 $\frac{1}{2}$  columns; vol. 9, p. 24, 1 column; p. 270, 4 columns.

**REDUCTION OF ORES IN THE BARBERTON GOLDFIELD, SOUTH AFRICA.** P. C. M. & M. Soc. S. A., vol. 10, p. 130. 2 columns.

**NATOMAS 1500-TON PLANT FOR CRUSHING DREDGE TAILING.** By G. Bowers. Min. & Sci. Press, vol. 99, p. 609. 8½ columns. I.

See also **DISPOSAL OF WASTE**.

**"BATTLE-BOX" FOR CLEANING FINE BARITE.** T. A. I. M. E., vol. 40, pp. 731 and 732. I.

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#### **Automatic Feeders for Reducing Machinery**

**NOTES ON FEEDERS WITH A DESCRIPTION OF A NEW DRIVING DEVICE.** By D. J. Pepler. P. C. M. & M. Soc. S. A., vol. 8, p. 42, 3 columns, I.; p. 85, 1½ columns; p. 146, 3½ columns, I.; p. 182, 2½ columns.

**THE HUNTER ORE FEEDER.** P. C. M. & M. Soc. S. A., vol. 5, p. 9. 1½ columns. I.

**AN IMPROVED BUFFER FOR ORE FEEDERS:** Stamp Milling. By T. White. T. Au. I. M. E., vol. 5, p. 118. 1½ pages. I.

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**CAPACITY OF CRUSHERS.** Min. Mag., London, vol. 2, p. 45. 3 columns.

**STONE BREAKERS FOR DRY CRUSHING.** T. Au. I. M. E., vol. 6, p. 47. 3 pages.

**THE EFFICIENCIES OF CRUSHERS.** By R. W. Chapman. M. & M., vol. 30, p. 413. 2 columns. D.

**A NEW COAL BREAKER (REDUCER).** M. & M., vol. 29, p. 252. ¾ column. I.

**COARSE CRUSHING AT THE BOSTON CONSOLIDATED MILL AT GARFIELD, UTAH.** By L. S. Austin. Min. & Sci. Press, vol. 100, p. 123. 3 columns. I.

**CRUSHING IN THE ELY, NEVADA, MILL.** M. & M., vol. 29, p. 169. 1 column.

**THE NEW COCHRAN CRUSHER.** By J. T. Barkleew. E. & M. J., vol. 88, p. 264. 4 columns. I.

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**POWER REQUIRED FOR STAMPS.** Min. & Sci. Press, vol. 100, p. 222. ½ column. D.

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- EL ORO TUBE MILL LINING.** E. & M. J., vol. 85, p. 811. ¾ column. I.
- TUBE MILL LINING.** By H. E. West. Min. & Sci. Press, vol. 96, p. 418. 4 columns. I.
- LINING FOR TUBE MILL.** Min. & Sci. Press, vol. 95, p. 466. ¾ column. I.
- FINE GRINDING TESTS: Tube Mill and Grinding Pans, Broken Hill South Mine.** By W. E. Wainwright and W. J. M'Bride. T. Au. I. M. E., vol. 13, p. 38. 20 pages. I.

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**TUBE MILLS AT GUANAJUATO.** By C. W. Van Law. Min. & Sci. Press, vol. 95, p. 205. 1 column.

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#### Sampling Coal and Ores

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METHOD OF SAMPLING ILLINOIS COALS. T. A. I. M. E., vol. 40, p. 17. 6 pages. I.

MINE SAMPLING AND CHEMICAL ANALYSIS OF COALS TESTED AT THE UNITED STATES FUEL-TESTING PLANT, NORFOLK, VIRGINIA. By J. S. Burrows. U. S. G. S., Bull. 362. 23 pages. 1908.

THE IMPORTANCE OF UNIFORM AND SYSTEMATIC COAL MINE SAMPLING. By J. S. Burrows. U. S. G. S., Bull. 316, p. 486. 32 pages. I. 1906.

SAMPLING AT COAL MINES. M. & M., vol. 31, p. 91. 1 column. I.

SAMPLES FROM MINE CARS, TIPPLES AND LOADING RAILROAD CARS. M. & M., vol. 31, p. 91. 3 columns. I.

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**SAMPLING OF COBALT-SILVER ORES.** E. & M. J., vol. 90, p. 809. ¾ column.

**SAMPLING ORES AT THE AUBURN MILL, NEVADA.** Min. & Sci. Press, vol. 22, p. 248. ½ column.

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**SAMPLING OF MINE DUMPS.** By H. S. Munroe. Sch. Mines Quart., vol. 29, p. 233. 5 pages. I.

**SAMPLING OF MINE DUMPS.** By H. S. Munroe. Min. & Sci. Press, vol. 96, p. 711. 2 columns. I.

**CHURN DRILL GRAVEL SAMPLING.** By J. P. Keene. Min. & Sci. Press, vol. 99, p. 289. 2½ columns.

**CHURN DRILL SAMPLING.** By W. E. Thorne. Min. & Sci. Press, vol. 98, p. 358. 3½ columns. I.

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**SCREENING AT THE UTAH COPPER MILL.** By H. B. Lowden. E. & M. J., vol. 87, p. 992. ¼ column.

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**THE KEEDY SIZER FOR CLASSIFYING COMPLEX ORES.** By C. F. Dietz and D. V. Keedy. E. & M. J., vol. 89, p. 322. 12 columns. I.

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**CODE OF MINE SIGNALS:** The Cleveland Cliffs Iron Company. By O. D. McClure. T. L. S. M. I., vol. 14, p. 147. 9 pages.

**SIGNALS IN QUINCY MINE, MICHIGAN.** J. C. M. I., vol. 10, p. 414.  $\frac{1}{2}$  page.

**MINE SIGNALS IN CALIFORNIA.** Min. & Sci. Press, vol. 98, p. 702.  $\frac{1}{2}$  columns.

**BELL SIGNALS IN LAKE SUPERIOR DISTRICT.** By W. L. Fleming. E. & M. J., vol. 89, p. 1263.  $1\frac{1}{2}$  columns.

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**ELECTRIC SIGNALS IN SHAFTS.** By W. E. Wainwright. Min. & Sci. Press, vol. 100, p. 428.  $2\frac{1}{2}$  columns. I.

**ELECTRIC SIGNAL TO SHAFT BOTTOM, ENGINE, AND WEIGH ROOM.** By M. M. Haley. M. & M., vol. 31, p. 353.  $\frac{1}{2}$  column.

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**ON MINING SURVEYS.** By A. Beau-  
lands. Min. Mag., vol. 9, p. 337.  
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**THE PRACTICAL MINER'S GUIDE:** A  
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**A NOVEL STADIA ROD.** By J. H.  
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M., vol. 30, p. 268. 2 columns. I.

**A NEW METHOD OF MEASURING  
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G. S., 2d Ann. Rept., pp. 403-566.  
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**Magnetic Surveys**

**MAGNETIC DECLINATION IN THE UNITED STATES.** By H. Gannett. U. S. G. S., 17th Ann. Rept., pt. 1, pp. 203-440. 1895-96. I.

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**A TRIANGULATION STATION.** By L. Fraser. E. & M. J., vol. 87, p. 1124. 1½ columns. I.

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**TRIANGULATION AND SPIRIT LEVELING.** By H. M. Wilson and others. U. S. G. S., 18th Ann. Rept., pt. 1, pp. 131-422, 1896-97; 19th Ann. Rept., pt. 1, pp. 145-408, 1897-98; 20th Ann. Rept., pt. 1, pp. 211-530, 1898-99; 21st Ann. Rept., pt. 1, pp. 205-582, 1899-1900.

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**ON METHODS OF MAKING LARGE SCALE CONTOUR SURFACE PLANS OF CLAIMS OR MINING PROPERTIES.** By W. H. Boyd. J. C. M. I., vol. 13, p. 444. 11 pages. D.

**CONTOURING ON MINING PROPERTIES WITH THE AID OF THE TACHEOMETER.** By H. P. Scale. T. Au. I. M. E., vol. 6, p. 62. 24½ pages. I.

**MANUAL OF TOPOGRAPHIC METHODS.** By H. Gannett. U. S. G. S., Bull. 307. 88 pages. I. 1906.

**COOPERATION IN TOPOGRAPHY, HYDROGRAPHY AND GEOLOGY, BETWEEN THE UNITED STATES GEOLOGICAL SURVEY AND THE VARIOUS STATE GOVERNMENTS.** By E. W. Parker. J. M. Soc. N. S., vol. 13, p. 109. 15 pages.

**TOPOGRAPHIC ENGINEERING.** By W. D. Blackburn. E. & M. J., vol. 87, p. 997. 3 columns.

**A BALLOON SURVEY.** By W. S. Weeks. E. & M. J., vol. 87, p. 1079. 1½ columns. I.

**SURVEY OF THE NORTHWESTERN BOUNDARY OF THE UNITED STATES, 1857-1861.** By M. Baker. U. S. G. S., Bull. 174. 78 pages. Map. 1900.

**SURVEY OF THE BOUNDARY LINE BETWEEN IDAHO AND MONTANA FROM THE INTERNATIONAL BOUNDARY TO THE CREST OF THE BITTERROOT MOUNTAINS.** By R. W. Goode. U. S. G. S., Bull. 170. 67 pages. I. 1900.

**LOCATION AND SURVEY OF RESERVOIR SITES.** By A. H. Thompson. U. S. G. S., 12th Ann. Rept., pt. 2, pp. 1-212. 1890-91. I.

**COMPENSATING GRADES FOR MINE RAILROAD SIDINGS.** By R. D. N. Hall. M. & M., vol. 31, p. 768. 2 columns.

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**DETAILS OF MINE SURVEYING.** By A. E. Robinson. Min. & Sci. Press, vol. 101, p. 294. 11½ columns. I.

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**MINE SURVEY NOTES.** By G. W. Riter. T. A. I. M. E., vol. 41, p. 790. 7 pages.

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**MINE SURVEYING METHODS EMPLOYED AT BUTTE, MONTANA.** By P. A. Gow. E. & M. J., vol. 90, p. 1209. 8½ columns. I.

**COLLIERY SURVEY NOTES.** By R. Shumway. M. & M., vol. 31, p. 61. 1½ columns. I.

**SURVEYING AT LYTTLE COLLIERY.** By J. H. Hærtter. M. & M., vol. 29, p. 108. 5½ columns. I.

**COLLIERY SURVEYS.** By D. Harrington. M. & M., vol. 30, p. 94, 6½ columns; p. 234, 2½ columns; p. 305, 5½ columns; p. 337, 5 columns, I.; p. 439, 5 columns.

**SURVEYING AN INACCESSIBLE STOPE.** By A. E. Robinson. Min. & Sci. Press, vol. 101, p. 678. 1½ columns. I.

**STOPE MEASUREMENTS.** By O. S. Tounesen. P. C. M. & M. Soc. S. A., vol. 9, p. 375. 28 columns. I.

**STOPE MEASUREMENTS.** By O. S. Tounesen. P. C. M. & M. Soc. S. A., vol. 10, p. 18, 1½ columns; p. 63, 3½ columns, I.; p. 105, 2 columns; p. 140, 2½ columns, I.; p. 369, 7½ columns.

**TUNNEL SURVEY IN AN ANTHRACITE COLLIERY.** By D. P. Jones. E. & M. J., vol. 89, p. 881. 2½ columns. I.

**UNDERGROUND CURVES.** E. & M. J., vol. 89, p. 1149. 1 column. I.

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**CONTOUR MAPS OF ORE-BODIES.** M. & M., vol. 29, p. 343. ¼ column. I.

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#### Shaft-Plumbing

**PLUMBING A DEEP SHAFT.** Min. & Sci. Press, vol. 95, p. 427. 1½ columns.

**PLUMBING A SHAFT IN THE ANTHRACITE FIELDS.** Coal Mining Supplement, E. & M. J., vol. 88, p. 37. 2½ columns. I.

**MODERN METHOD OF PLUMBING A SHAFT.** By J. P. Davis. E. & M. J., vol. 89, p. 1174. 5 columns. I.

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### TRANSPORTATION

#### Methods of Transportation

**TRANSPORTATION.** By R. Reford. J. M. Soc. N. S., vol. 12, p. 23. 34 pages.

**COAL MINE TRANSPORTATION.** By E. B. Wilson. M. & M., vol. 31, p. 408. 3½ columns. I.

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**PNEUMATIC TRANSPORTATION OF COAL.** E. & M. J., vol. 89, p. 674. ½ column.

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**HINTS TO ORE SHIPPERS.** By S. E. Bretherton. Min. & Sci. Press, vol. 101, p. 530. 5½ columns.

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#### Portage, Packing and Fluming

**PORTAGE IN THE BOLIVIAN TIN MILLS.** E. & M. J., vol. 90, p. 1054. ½ column.

**PACKING 13,000 FEET OF STEEL CABLE OVER A MOUNTAIN TRAIL.** E. & M. J., vol. 86, p. 672. 1 column. I.

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- MULE-BACK TRANSPORTATION OF SECTIONALIZED MACHINERY.** By F. C. Roberts and W. W. Bradly. Min. & Sci. Press, vol. 98, p. 751. 9½ columns. I.
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- TRANSPORTATION OF COAL BY FLUME.** By R. M. Magraw. M. & M., vol. 30, p. 236. 6 columns. I.
- TRANSPORT OF MACHINERY IN MOUNTAINOUS COUNTRIES.** By H. H. Kress and A. S. Cameron. Min. & Sci. Press, vol. 95, p. 471. 2 columns. I.
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- ON THE DURABILITY OF RAILROAD IRON.** By W. Truran. Min. Mag., vol. 4, p. 248, 10 pages; vol. 5, p. 291, 2 pages.
- STANDARD RAIL SECTIONS AND FISH BAR JOINTS.** By W. R. Jones. P. E. Soc. W. Pa., vol. 3, p. 33. 21 pages. I.
- COMPARISON OF AMERICAN AND FOREIGN RAIL SPECIFICATIONS, WITH A PROPOSED STANDARD SPECIFICATION TO COVER AMERICAN RAILS ROLLED FOR EXPORT: A Discussion of A. L. Colby Paper.** T. A. I. M. E., vol. 38, p. 916. 7 pages.

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#### **Wagon Roads, Wagons and Traction Engines**

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**MACADAM ROADS AND THEIR PRESERVATION.** By L. W. Page. J. W. Soc. E., vol. 15, p. 57. 23 pages.

**SPECIFICATIONS AND NOTES ON MACADAM ROAD CONSTRUCTION.** By A. N. Johnson. J. W. Soc. E., vol. 13, p. 767. 25 pages.

**PRELIMINARY REPORT ON GEOLOGY OF COMMON ROADS OF UNITED STATES.** By N. S. Shaler. U. S. G. S., 15th Ann. Rept., pp. 1-110. 1893-94.

**FREIGHTING ORE WITH BIG STRING TEAMS.** By G. C. McFarlane. E. & M. J., vol. 87, p. 1078. 4 columns.

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**ROAD DISTANCES IN NEVADA.** Min. & Sci. Press, vol. 95, p. 748. ½ column.

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**THE NILE AS A MINING RIVER.** By A. Del Mar. Min. & Sci. Press, vol. 95, p. 463. 5½ columns. I.

**WATER TRANSPORTATION IN THE BIRMINGHAM DISTRICT.** E. & M. J., vol. 88, p. 301. 4½ columns.

**THE OHIO RIVER: Improvement for Navigation.** By J. W. Arras. P. E. Soc. W. Pa., vol. 24, p. 241. 37 pages. I.

**THE MONONGAHELA RIVER: Methods of Improvement of Navigation.** By T. P. Roberts. P. E. Soc. W. Pa., vol. 24, p. 193. 28 pages. I.

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## TUNNELING

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**PROBLEMS OF TUNNEL DRIVING.** By C. R. Gent. M. & M., vol. 30, p. 509. 1 column. I.

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THE VENTILATION OF MINES. By J. K. Blackwell. Min. Mag., vol. 2, p. 156, 10 pages; p. 286, 3 pages.

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MINE VENTILATING FANS. By J. R. McColl. M. & M., vol. 30, p. 729. 2½ columns. I.

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## WATER

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It has been found impracticable to index all subjects considered in the references given in this work, but it is hoped that the present index will prove to be amply exhaustive to give ready access to any desired information.

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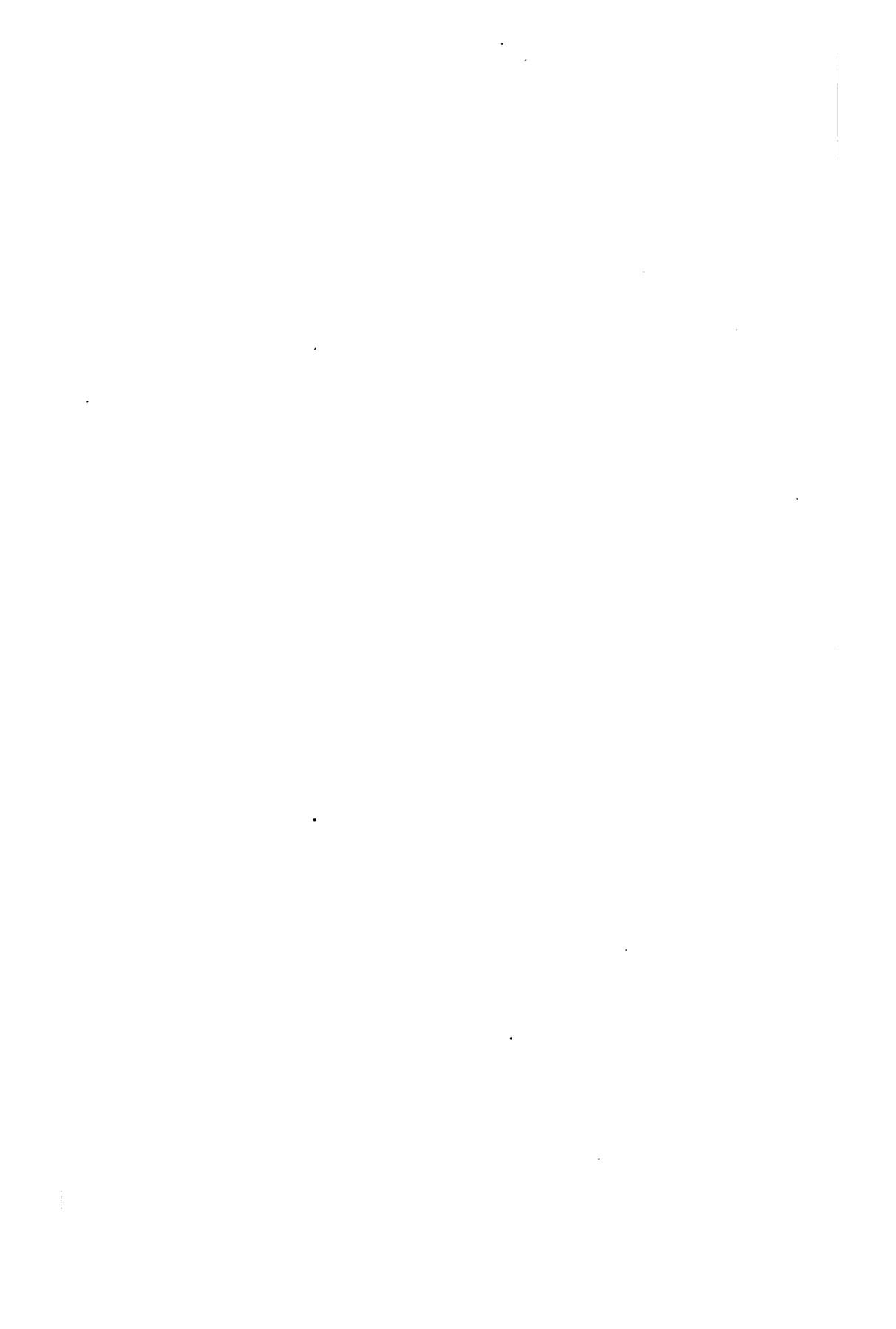
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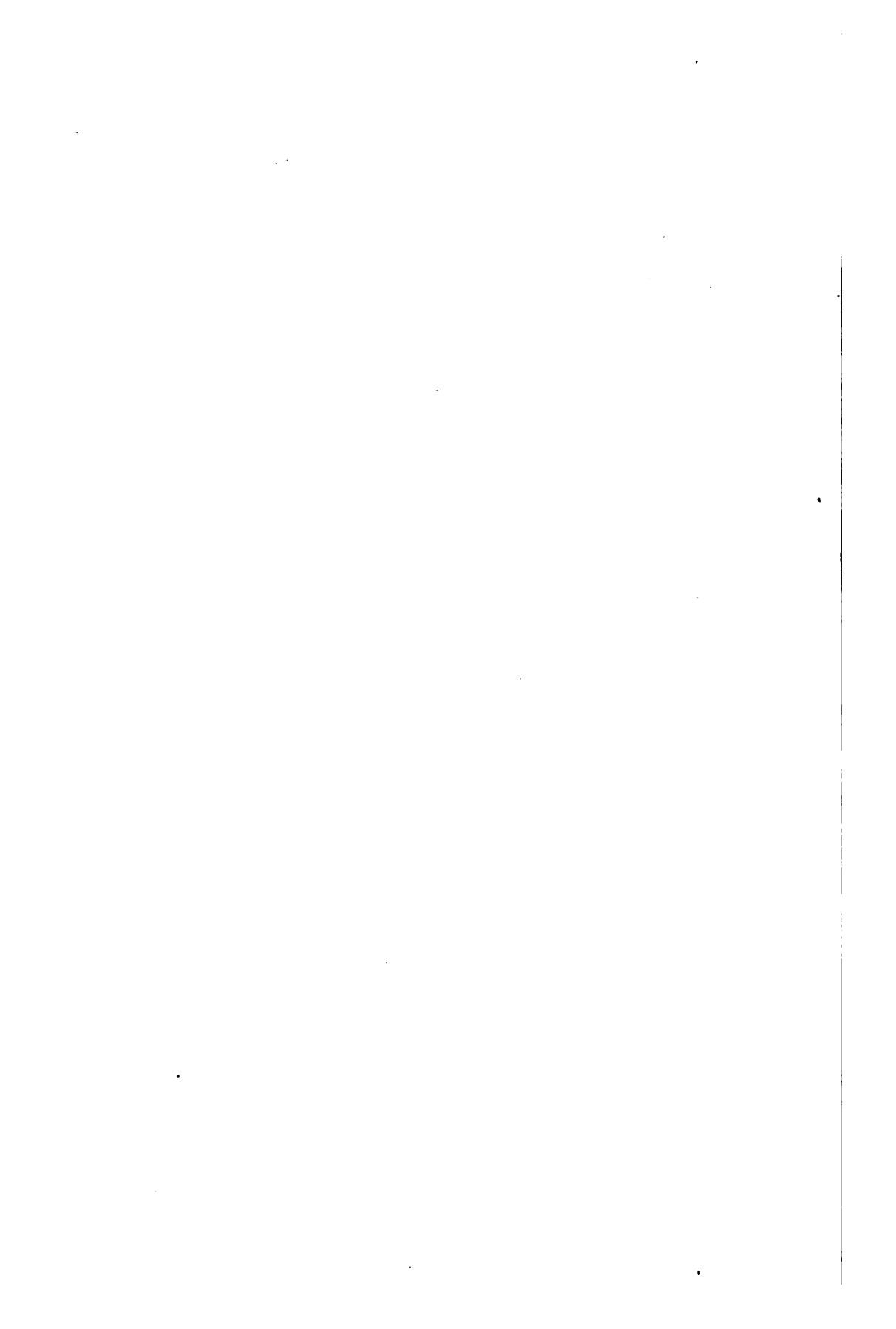
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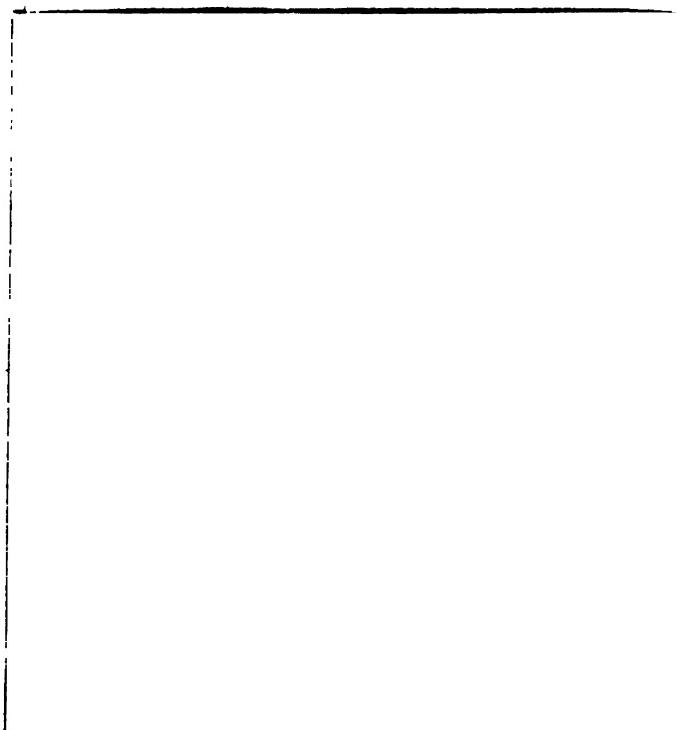
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